Course Descriptions

Academic Courses

Will transfer to baccalaureate programs

Course	*AA-Academic Course Area Title*
ACCT	Accounting
AFSC	Air Force Science
AGRI	Agriculture
ANTH	Anthropology
ARAB	Arabic
ARTS	Studio Art/Art History
ASTR	Astronomy
BCIS	Business Computer Applications
BIOL	Biology
CHEM	Chemistry
CHIN	Chinese
COMM	Communications
COSC	Computer Science
CRIJ	Criminal Justice
DANC	Dance
DRAM	Drama
ECON	Economics
EDUC	Teacher Education
ENGL	English
ENVR	Environmental Science
ESOL	Intensive English
ENGR	Engineering
FORE	Forestry
FREN	French
GEOG	Geography
GEOL	Geology
GERM	German
GOVT	Government
GUST	Guided Studies
HIST	History
JAPN	Japanese
KORE	Korean
PHED	Physical Education
MATH	Mathematics
MLSC	Military Science
MUAP	Music Applied Performance
MUSI	Music
PHED	Physical Education
PHIL	Philosophy
PHYS	Physics
PSYC	Psychology
READ	Reading (Developmental)
RUSS	Russian
SGNL	Sign Language
SOCI	Sociology
SPAN	Spanish
SPCH	Speech
TECA	Teacher Education
VIET	Vietnamese

Career and Technology Education Courses

May or may not transfer to baccalaureate programs. Check with HCC Counselors

Course	*Career and Technical Program Titles*
ACNT	Accounting
HART	Air Conditioning/Refrigeration
MUSC	Audio Recording
RTVB	Audio Recording
ABDR	Autobody/Collision Repair Technician
AUMT	Automotive Technician
AERM	Aviation Technology
PSTR	Baker/Pastry Chef
BIOM	Biomedical Technology
BITC	Biotechnology
RTVB	Broadcast Technology
WDWK	Building Science Technology
PFPB	Building Science Technology
BUSG	Business Administration
BUSG	Business, General
BMGT	Business Management
BMGT	Business Administration and Management
MRKG	Business Marketing and Marketing Management
BMGT	Business Technology - PeopleSoft
POFI	Business Technology - Microsoft Office Technology
POFL	Business Technology - Legal
POFM	Business Technology
POFT	Business Technology
CVTT	Cardiovascular Technology
ECRD	Cardiovascular Technology
CTEC	Chemical Laboratory Technology
SCIT	Chemical Laboratory Technology
CDEC	Child Development
MLAB	Clinical Laboratory Technician
MUSC	Commercial Music
CSIR	Communication System Installer/Repairer
CTMT	Computed Tomography
INEW	Computer Science Technology
ITMT	Computer Science Technology
ITNW	Computer Science Technology
ITSC	Computer Science Technology
ITSE	Computer Science Technology
ITSW	Computer Science Technology
ITSY	Computer Science Technology
CNBT	Construction Technology
CRPT	Construction Technology
CSME	Cosmetology
CJLE	Criminal Justice - Law Enforcement
CJSA	Criminal Justice - Law Enforcement Administration
CJCR	Criminal Justice - Corrections
CHEF	Culinary Arts
PSTR	Culinary Arts
DNTA	Dental Assisting

Course Descriptions

DHYG ..... Dental Hygiene
DMSO ..... Diagnostic Medical Sonography
DVST ..... Diagnostic Medical Sonography
DEMR ..... Diesel Mechanics
ARTC ..... Digital Communication
ARTV ..... Digital Communication
ETWR ..... Digital Communication
IMED ..... Digital Communication
INEW ..... Digital Communication
ITSE ..... Digital Communication
PHTC ..... Digital Communication
GAME ..... Digital Gaming and Simulation
ARCE ..... Drafting/Design Engineering Technology
DFTG ..... Drafting/Design Engineering Technology
BIOM ..... Electronic Engineering Technology
CETT ..... Electronic Engineering Technology
CPMT ..... Electronic Engineering Technology
EECT ..... Electronic Engineering Technology
ITCC ..... Electronic Engineering Technology
ITSY ..... Electronic Engineering Technology
EMSP ..... Emergency Medical Services
FSHD ..... Fashion Design
FSHN ..... Fashion Merchandising
FLMC ..... Filmmaking
RTVB ..... Filmmaking
BNKG ..... Finance (Banking)
BUSG ..... Finance (Banking)
IBUS ..... Finance (Banking)
FIRS ..... Fire Services
FIRT ..... Fire Technology
GISC ..... Geographic Information Science
GRPH ..... Graphic Arts/Lithograph
FITT ..... Health and Fitness Instructor
HITT ..... Health Information Technology
HPRS ..... Health Information Technology
MRMT ..... Health Information Technology
HART ..... Heating/Air Condition. and Refrigeration Technology
HLAB ..... Histologic Technician
FMKT ..... Horticulture
HALT ..... Horticulture
HAMG ..... Hospitality Administration/Management
RSTO ..... Hotel Restaurant Management
HRPO ..... Human Resources Management
DAAC ..... Human Service Technology
CMSW ..... Human Service Technology
GERS ..... Human Service Technology
RECT ..... Human Service Technology
SCWK ..... Human Service Technology
ELMT ..... Industrial Electricity
ELPT ..... Industrial Electricity
INTC ..... Instrumentation and Controls Engineering Technology
IBUS ..... International Business
INDS ..... Interior Design
SLNG ..... Interpreting/Translating Technology
POFL ..... Legal Office Assistant
LMGT ..... Logistics and Global Supply Chain Management
MCHN ..... Machining Technology
ENTC ..... Manufacturing Engineering Technology
HYDR ..... Manufacturing Engineering Technology
INMT ..... Manufacturing Engineering Technology
PLTC ..... Manufacturing Engineering Technology
MRKG ..... Marketing
BMGT ..... Material/Management
POFM ..... Medical Administrative Assistant/Secretary
MDCA ..... Medical Assistant
MUSB ..... Music Business
MUSC ..... Music Arranging, Composition, and Production
MUSP ..... Music Performance
NMTT ..... Nuclear Medicine Technology
RNSG ..... Nursing
OTHA ..... Occupational Therapy Assistant
LGLA ..... Paralegal Technology
PTRT ..... Petroleum Engineering Technology
PHRA ..... Pharmacy Technician
PTHA ..... Physical Therapist Assistant
PTAC ..... Process Technology
POFI ..... Professional Office Administration
PBAD ..... Public Administration
RADR ..... Radiography
RELE ..... Real Estate
RSPT ..... Respiratory Therapist
SCIT ..... Surgical Technology
SRGT ..... Surgical Technology
TRVM ..... Travel and Tourism
VTHT ..... Veterinary Paramedic
VNSG ..... Vocational Nursing
WLDG ..... Welding

ABDR 1207 Auto Body Welding
Credit: 2 (4 lab)
A study of industry and standard welding and cutting procedures.

ABDR 1215 Vehicle Trim and Hardware
Credit: 2 (2 lecture)
An in depth study of vehicle trim and glass service.

ABDR 1280 Cooperative Education - Autobody/Collision and Repair Technology/Technician
Credit: 2 (1 lecture, 10 lab)
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

ABDR 1291 Special Topics in Auto/ Automotive Body Repairer
Credit: 2 (1 lecture, 2 lab)
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

ABDR 1431 Basic Refinishing
Credit: 4 (2 lecture, 4 lab)
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.

ABDR 1441 Structural Analysis and Damage Repair I
Credit: 4 (2 lecture, 4 lab)
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.

ABDR 1442 Structural Analysis and Damage Repair II
Credit: 4 (2 lecture, 4 lab)
Continuation of general repair and replacement procedures for damaged structural parts and collision damage.

ABDR 1458 Intermediate Refinishing
Credit: 4 (2 lecture, 4 lab)
Expanded training in mixing and spraying of automotive topcoats. Emphasis on formula ingredient, reducing, thinning, and special spraying techniques. Introduction to partial panel refinishing techniques and current industry paint removal techniques.

ABDR 2431 Structural Analysis and Damage Repair III
Credit: 4 (2 lecture, 4 lab)
Advanced concepts in the application of theories of auto body repair and replacement of major body units.

ABDR 2441 Major Collision Repair and Panel Replacement
Credit: 4 (2 lecture, 4 lab)
Instruction in preparation of vehicles for major repair processes. This course covers interpreting information from damage reports, planning repair sequences, selecting appropriate tools, and organizing removed parts for reinstallation.

ABDR 2449 Advanced Refinishing
Credit: 4 (2 lecture, 4 lab)
Skill development in multi-stage refinishing techniques. Further development in identification of problems and solutions in color matching and partial panel refinishing.

ACCT 2301 Principles of Accounting I
Prerequisite: ACNT 1303/or Department Approval
Credit: 3 (3 lecture)
This course covers the fundamentals of financial accounting, including double-entry accounting and the accounting cycle. Other topics include cash, receivables, inventories, plant assets, liabilities, partnerships, corporation, investments, statement of cash flows and interpretation of financial statements.

ACCT 2302 Principles of Accounting II
Prerequisite: ACCT 2301
Credit: 3 (3 lecture)
This course covers the fundamentals of managerial accounting including manufacturing operations and planning and control. Other topics include budgets, introduction to cost accounting, cost control techniques, methods of measuring performance and financial statement analysis.

ACNT 1303 Introduction to Accounting I
Credit: 3 (3 lecture)
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. Coverage also includes the fundamental principles of double-entry bookkeeping, financial statements, trial balances, worksheets, special journals, adjusting entries and closing entries.

ACNT 1304 Introduction to Accounting II
Credit: 3(3 lecture)
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.

ACNT 1313 Computerized Accounting Applications
Prerequisite: ACNT 1303 and ITSC 1309
Credit: 3 (2 lecture, 2 lab)
A study of utilizing the computer to develop and maintain accounting record- keeping systems, make management decisions, record daily business transactions, and generate financial statements using Peachtree or QuickBooks.

ACNT 1329 Payroll and Business Tax Accounting
Prerequisite: ACNT 1303
Credit: 3 (3 lecture)
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
Prerequisite: ACCT 2302
Credit: 3 (3 lecture)
A study of the laws currently implemented by the IRS, providing a working knowledge of preparing taxes for the individual.

ACNT 1347 Federal Income Tax for Partnerships and Corporations
Prerequisite: ACCT 2302
Credit: 3 (3 lecture)
Introduction to the tax laws as currently implemented by the Internal Revenue Service providing a working knowledge of preparing taxes for a partnership, sub chapter S, and corporation.

ACNT 1382 Cooperative Education– Accounting Technician
Prerequisite: 12 Semester Hours/ Program Approval
Credit: 3 (1 lecture/seminar and 20-hours a week employment)
Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. Blend of academic and work-related activities in student's major.

Course Descriptions

ACNT 1391 Ethics for Accountants

Prerequisite: ACNT 2331

Credit: 3 (3 lecture)

This course will prepare the accounting student for a variety of ethical situations they will face in the workplace. Students will develop their understanding of and identifying ethical situations and resolving ethical conflict by researching, writing and roll playing actual cases. This course will also help them develop analytical skills and good communication. They will be encouraged to give reasons and explanations for potential resolutions; in doing this, they will gain a foundation for making ethical judgments in their professional conduct.

ACNT 1391 Fraud Examinations

Prerequisite: ACNT 2331

Credit: 3 (3 lecture)

This course is intended to help students understand organizational fraud, causes and how to prevent fraud. The course will provide students with the knowledge of accounting procedures encompassed in fraud examinations. Topics will also cover the professional responsibilities of the accountant in light of recent litigations and revised fraud standards.

ACNT 1391 Oil and Gas Accounting

Prerequisite: ACCT 2302

Credit: 3 (3 lecture)

An introduction to particularities of recording and reporting cost and revenues incident to creation and realization of mineral interests.

ACNT 1392 Small Business Accounting

Prerequisite: ACCT 2302

Credit: 3 (3 lecture)

A course on how to start and operate a small business. Topics include essential management skills and how to prepare a business plan, and marketing strategies. Practical guidance is provided for selecting and maintaining a cost-effective accounting system, records retention, budgets and cash flow projections.

ACNT 2303 Intermediate Accounting I

Prerequisite: ACCT 2302

Credit: 3 (3 lecture)

Critical analysis of general accepted accounting principles, concepts, and theory underlying the preparation of financial statements. Emphasis on current theory and practice. Covers the theoretical and practical basis for financial statements, present value applications, and the theory and practice of accounting for cash, receivables, inventories, liabilities, long-term investments, depreciable and depletable property, and intangible assets.

ACNT 2304 Intermediate Accounting II

Prerequisite: ACNT 2303

Credit: 3 (3 lecture)

Continued in-depth analysis of generally accepted accounting principles underlying the preparation of financial statements including comparative analysis and statement of cash flows. Topics also included are bonds, leases, pension plans, corporate paid-in- capital, special purpose securities, retained earnings, tax allocation, inflation accounting, funds statement, and financial statement analysis.

ACNT 2309 Cost Accounting

Prerequisite: ACCT 2302

Credit: 3 (3 lecture)

A study of budgeting and cost control systems including a detailed study of manufacturing cost accounts and reports, job order costing, and process costing. Includes introduction to alternative costing methods such as activity-based and just-in-time costing. Coverage also includes historical cost systems, work-in-process inventories, material and labor control, multiple products, budgeting, applying overhead, standard costs, direct costing, evaluating profit performance, and distribution costs.

ACNT 2330 Government and Non-Profit Accounting

Prerequisite: ACCT 2302

Credit: 3 (3 lecture)

Basic concepts and techniques of fund accounting, financial reporting for governmental and not-for-profit entities. Accounting cycle for funds and account groups and related financial statements

ACNT 2331 Internal Control and Auditing

Prerequisite: ACCT 2302

Credit: 3 (3 lecture)

A study of internal control and auditing standards and processing used by internal auditors, managers, and independent public accountants. Covers also auditing principles and procedures, auditing standards, ethics, working papers and audit reports.

ACNT 2332 Accounting Information Systems

Prerequisite: ACCT 2302

Credit: 3 (3 lecture)

A study of the role of accounting information systems and related subsystems, including data collection, retrieval, manipulation, filtering and sorting of data.

ACNT 2333 Advanced Accounting

Prerequisite: ACNT 2304

Credit: 3 (3 lecture)

Methods of measuring and communicating economic information, including consolidated statements, partnerships, real estate, foreign operations, and fund units.

ACNT 2382 Cooperative Education– Accounting Technician

Prerequisite: ACNT 1382

Credit: 3(1 lecture/seminar and 20-hours a week employment)

Continuation of ACNT 1382. Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. Blend of academic and work-related activities in student's major.

AERM 1205 Weight and Balance

Credit: 2 (1 lecture, 2 lab)

An introduction to Federal Aviation Administration (FAA) required subjects relating to the weighing of aircraft, the performance of weight and balance calculations, and appropriate maintenance record entries.

AERM 1208 Federal Aviation Regulations

Credit: 2 (1 lecture, 2 lab)

A course in the use and understanding of the Federal Aviation Administration (FAA) and aircraft manufacturers' publications, forms, and records; and the exercise of mechanic privileges within prescribed limitations.

AERM 1210 Ground Operations

Credit: 2 (1 lecture, 2 lab)

An introductory course in fuels, servicing methods and safety procedures, aircraft movement, securing and operations of aircraft, external power equipment, aircraft cleaning, and corrosion control.

AERM 1241 Wood, Fabric, and Finishes

Credit: 2 (1 lecture, 3 lab)

A course in the use and care of various covering materials, finishes, and wood structures including approved methods and procedures. Safety also addressed.

AERM 1243 Instruments and Navigation/ Communication

Credit: 2 (1 lecture, 2 lab)

A study of aircraft instruments and electronic flight instrument systems including testing and installing instruments; inspecting, checking, and troubleshooting navigation and communication systems; and inspecting and repairing antennas and electronic equipment installations.

AERM 1253 Aircraft Welding
Credit: 2 (1 lecture, 3 lab)
Skill development in repair procedures for steel, magnesium, brass, and aluminum materials used in aircraft assembly and selection and application of appropriate methods of welding, brazing, and soldering steel, magnesium, brass, and aluminum. Fundamentals of safety procedures also addressed.

AERM 1254 Aircraft Composites
Credit: 2 (1 lecture, 3 lab)
Comprehensive concepts of the inspection and repair of composite, fiberglass, honeycomb, and laminated structural materials including doors, windows, bonded structures, and interior furnishings. Safety procedures will also be addressed.

AERM 1303 Shop Practices
Credit: 3 (2 lecture, 3 lab)
An introduction to shop safety, the correct use of hand tools, equipment and precision measurement, identification of aircraft hardware, and the fabrication of fluid lines and tubing. Emphasis on procedures for testing, heat treating, and inspection of aircraft structures.

AERM 1315 Aviation Science
Credit: 3 (2 lecture, 3 lab)
Fundamentals of mathematics, physics, and drawing as they apply to aircraft principles and operations as required by the Federal Aviation Administration (FAA) for airframe and powerplant mechanics.

AERM 1340 Aircraft Propellers
Credit: 3 (2 lecture, 3 lab)
Fundamentals of propeller design, function, and construction. Skill development in inspection, servicing, and repair of fixed-pitch, constant-speed, and feathering propellers and governing systems. Instruction in removal, balancing, and installation of propellers and fundamentals of safety are also addressed

AERM 1345 Airframe Electrical Systems
Credit: 3 (2 lecture, 2 lab)
A study of airframe electrical systems including installation, removal, disassembly, and repair of electrical components and related wiring. Fundamentals of electrical safety also addressed.

AERM 1347 Airframe Auxiliary Systems
Credit: 3 (2 lecture, 3 lab)
A comprehensive study of airframe auxiliary systems including cabin atmospheric control systems, ice and rain control systems for aircraft and engines, and fire detection and protection systems. Fundamentals of safety procedures also addressed.

AERM 1349 Hydraulic, Pneumatic, and Fuel Systems
Credit: 3 (2 lecture, 4 lab)
Skill development in inspecting, servicing, and maintaining aircraft fluid systems including hydraulics, pneumatics, and fuel. Application of basic concepts through detailed maintenance procedures. Fundamentals of safety procedures also addressed.

AERM 1350 Landing Gear Systems
Credit: 3 (2 lecture, 3 lab)
General principles of inspection, servicing, overhaul, and repair of fixed and retractable landing gear systems and the operation and repair of position ans warning systems. Includes coverage of systems, components, operation, and fundamentals of safety procedures.

AERM 1351 Aircraft Turbine Engine Theory
Credit: 3 (2 lecture, 4 lab)
General principles of theory, history, and servicing of turbine engines to include lubrication, instrumentation, auxiliary power units, and exhaust systems. Fundamentals of safety procedures are also addressed.

AERM 1357 Fuel Metering and Induction Systems
Credit: 3 (2 lecture, 4 lab)
Skill development in fuel metering and induction systems used on reciprocating and turbine engines including fuel metering systems, carburetors, induction systems, heat exchangers, and cooling systems. Fundamentals of safety procedures will also be addressed.

AERM 1414 Basic Electricity
Credit: 4 (2 lecture, 4 lab)
A study of aircraft electrical systems and their requirements including the use of ammeter, voltmeter, and ohmmeter; series and parallel circuits; inductance and capacitance; magnetism; converting alternating current (AC) to direct current (DC); controlling devices; maintenance and servicing of aircraft batteries; and reading and interpreting aircraft electrical diagrams to include solid state devices and logic functions. Fundamentals of electrical safety also addressed.

AERM 1444 Aircraft Reciprocating Engines
Credit: 4 (2 lecture, 5 lab)
A study of reciprocating engines and their development, operating principles, and theory. Instruction in engine instruments, lubricating and exhaust systems. Fundamentals of safety will also be addressed.

AERM 1452 Aircraft Sheet Metal
Credit: 4 (3 lecture, 4 lab)
Skill development in inspection and repair of sheet metal structures including forming, lay out, and bending of sheet metal and identification, selection, and installation of rivets and fasteners. Fundamentals of safety procedures also addressed.

AERM 1456 Aircraft Powerplant Electrical
Credit: 4 (2 lecture, 6 lab)
General principles of theory, operation, and maintenance of powerplant electrical systems including ignition, starting, and fire protection systems. Fundamentals of safety procedures will also be addressed.

AERM 2231 Airframe Inspection
Credit: 2 (1 lecture, 3 lab)
In depth coverage of methods and procedures to perform airframe conformity and air worthiness inspections (including one hundred hour inspections) in accordance with Federal Aviation Regulations and manufacturer's service information. Safety procedures will also be addressed.

AERM 2252 Aircraft Powerplant Inspection
Credit: 2 (1 lecture, 3 lab)
In depth coverage of methods and procedures to perform powerplant conformity and airworthiness inspections (including one hundred hour inspections) in accordance with Federal Aviation Regulations and manufacturer's information. Safety procedures will also be addressed.

AERM 2333 Assembly and Rigging
Credit: 3 (2 lecture, 2 lab)
A comprehensive study of the assembly and rigging of fixed and rotary-wing aircraft including structural alignment, balancing and rigging of control systems and assembly of aircraft components. Fundamentals of safety procedures are also addressed.

AERM 2351 Aircraft Turbine Engine Overhaul
Credit: 3 (2 lecture, 4 lab)
A comprehensive study in inspection, disassembly, reassembly, and replacement of gas turbine engines, sections, and components including operational troubleshooting, analysis, and safety.

AERM 2547 Aircraft Reciprocating Engine Overhaul
Credit: 5 (4 lecture, 4 lab)
A comprehensive study of reciprocating engine overhaul including measurement and inspection procedures. Instruction in removal and installation, inspections, checks, servicing, and repair of engines. Safety procedures will be addressed.

Course Descriptions

AFSC 1201 Foundations of the US Air Force I

Prerequisite: Contact UH Air Force ROTC

Credit: 2 (2 lecture, 1 lab)

Overall roles and missions of the USAF; career fields available. Emphasis on military customs and courtesies, appearance standards, core values, written and personal communication. Introduction to American military history. Cooperative program with the University of Houston Air Force ROTC department.

AFSC 1202 Foundations of the US Air Force II

Prerequisite: AFSC 1201.

Credit: 2 (2 lecture, 1 lab)

Continuation of AFSC 1201. Cooperative program with the University of Houston Air Force ROTC department.

AFSC 2201 Evolution of Air Power I

Prerequisite: AFSC 1202.

Credit: 2 (2 lecture, 1 lab)

Key historical events and milestones in the development of air power as a primary instrument of United States national security. Core values and competencies of leaders in the United States Air Force. Tenets of leadership and ethics. Cooperative program with the University of Houston Air Force ROTC department.

AFSC 2202 Evolution of Air Power II

Prerequisite: AFSC 2201.

Credit: 2 (2 lecture, 1 lab)

Continuation of AFSC 2201. Cooperative program with the University of Houston Air Force ROTC department.

AGRI 1131 The Agricultural Industry

Credit: 1 (1 lecture)

An overview of world agriculture, nature of the industry and resource conservation, insight regarding career opportunities in agriculture and natural resources.

AGRI 1307 Agronomy

Credit: 3 (2 lecture, 2 lab)

Principles and practices in development, production, and management of field crops, plant breeding, plant diseases, soils, insect control, and weed control.

AGRI 1309 Computers in Agriculture

Credit: 3 (2 lecture, 2 lab)

Use of computers in agricultural applications. Introduction to programming languages, word processing, electronic spreadsheets and agricultural software.

AGRI 1311 Dairying

Credit: 3 (2 lecture, 2 lab)

Survey of dairy industries: dairy breeds, standards for selecting and culling, herd replacements, feeding, management, physiology, and health maintenance. Food value of milk, tests for composition and quality, use and processing of market milk and dairy products.

AGRI 1319 General Animal Science

Credit: 3 (2 lecture, 2 lab)

Scientific methods of animal selection, reproduction, nutrition, management, and marketing of beef cattle, swine, sheep, goats, and horses. Evaluation and processing of meat, wool, and mohair. Importance of livestock and meat industries.

AGRI 1325 Marketing of Agricultural Products

Credit: 3 (3 lecture)

Introductory course covering the operations involved in the movement of agricultural commodities from producer to consumer. Essential marketing functions of buying, selling, transporting, storing, financing, standardizing, pricing and risk bearing.

AGRI 1327 Poultry Science

Credit: 3 (2 lecture, 2 lab)

Introduction to the poultry industry. Practices and principles in production and marketing of turkeys, layers, broilers, and specialized fowl. Management, automated equipment, product technology, incubation, and production economics are included.

AGRI 1329 Principles of Food Science

Credit: 3 (3 lecture)

Technological and scientific aspects of modern industrial food supply systems. Food classification, nutritional considerations, modern processing, and quality control.

AGRI 2301 Agricultural Power Units

Credit: 3 (2 lecture, 2 lab)

Fundamentals of internal combustion engines: gasoline, diesel, and liquefied petroleum. Maintenance and adjustments of the electrical, ignition, fuel, lubricating, and cooling systems.

AGRI 2303 Agricultural Construction

Credit: 3 (2 lecture, 2 lab)

Selection, use, and maintenance of hand and power tools, arc and oxyacetylene welding, construction materials and principles.

AGRI 2313 Entonology

Credit: 3 (2 lecture, 2 lab)

Principal orders of insects, relation of anatomy and physiology of insects to control methods: development habits and economic importance of more common insects with control methods for injurious species.

AGRI 2317 Introduction to Agricultural Economics

Credit: 3 (3 lecture)

Characteristics of our economic system and basic economic concepts. Survey of the farm and ranch, its organizational and management structure, and operation within the marketing system. Functional and institutional aspects of agricultural finance and government farm programs.

AGRI 2321 Livestock Evaluation

Credit: 3 (2 lecture, 2 lab)

Instruction in selecting, evaluating, and judging of beef cattle, sheep, swine, and horses. The course will include the judging of both breeding and marketing animals with decisions being supported by oral reasons.

AGRI 2330 Wildlife Conservation and Management

Credit: 3 (3 lecture)

Principles and practices used in the production and improvement of wildlife resources for aesthetic, ecological, and recreational uses of public and private lands.

AGRI 2335 Dendrology - (see FORE 1314)

AGRI 2336 Arboriculture - (see FORE 2309)

ANTH 2301 Introduction to Physical Anthropology

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Introduction to Physical Anthropology explores the relationship between culture and biology through the methods, theory and research of biological anthropology. Students learn about basic mechanisms of genetic change in populations and the relationships between humans and the other primates. The appearance of humans and their bipedal ancestors approximately four million years ago and their culture history through the Paleolithic age are examined in detail. Students learn about biological variation and adaptation in human populations, responses to the environment, race, and other issues and their applications. Core Curriculum Course.

ANTH 2302 Introduction to Archaeology

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Introduction to Archaeology provides a survey of the basic methods, theory and research

of scientific archaeology. Human cultures and behaviors are identified and interpreted from material remains of over 2.5 million years of the human past. Students learn how anthropologists build cultural history from artifacts and material evidence of human activity, reconstruct past life ways, and explain similarities and differences of human cultures. Core Curriculum Course.

ANTH 2346 General Anthropology

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

This introductory survey of the four subfields of anthropology focuses on the cultural and biological diversity of humans including hominid prehistory, the emergence of Paleolithic cultures, and the agricultural and urban revolutions from an anthropological perspective. Past and present human adaptations and culture are surveyed and analyzed using the comparative and holistic approach of biological anthropology, archaeology, linguistics and ethnology. Core Curriculum Course.

ANTH 2351 Cultural Anthropology

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

This course focuses on culture, the ways people live and give meaning, form and organization to their lives as they adapt to various environments and conditions both in and beyond the borders of the U.S. Study of the descriptions and analysis of cultural diversity provide the basis for evaluating cultural components of everyday life including recognition of ethnocentrism, intercultural communication and understanding local and 'global' culture in a multicultural and transforming world. Core Curriculum Course.

ANTH 2389 Academic Cooperative in Anthropology

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in anthropology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human culture and social behavior and/or institutions and processes.

ARAB 1411 Beginning Arabic I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing. Credit: 4 (3 lecture, 2 lab)

Fundamentals skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Core Curriculum Course.

ARAB 1412 Beginning Arabic II

Prerequisites: ARAB 1411 or departmental approval. Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing. Credit: 4 (3 lecture, 2 lab)

Continuation of ARAB 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

ARAB 2311 Intermediate Arabic I

Prerequisites: ARAB 1412 or departmental approval. Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Arabic. Introduction of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in Arabic. Core Curriculum Course.

ARAB 2312 Intermediate Arabic II

Prerequisites: ARAB 2311 or departmental approval. Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Continuation of ARAB 2311, but with special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in Arabic. Core Curriculum Course

ARCE 1352 Structural Drafting

Credit: 3 (2 lecture, 4 lab)

A study of structural systems including concrete foundations and frames, wood framing and trusses, and structural steel framing systems. Includes detailing of concrete, wood, and steel to meet industry standards including the American Institute of Steel Construction and The American Concrete Institute.

ARCE 2352 Mechanical and Electrical Systems

Credit: 3 (2 lecture, 4 lab)

The properties of building materials (assemblies), specifications, codes, vendor references, and uses of mechanical, plumbing, conveying, and electrical systems as they relate to architecture for residential and commercial construction.

ARTC 1302 Digital Imaging I (Photoshop)

Corequisites: ARTC 1325 and ARTC 1305 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Digital imaging using raster image editing and/or image creation software: scanning, resolution, file formats, output devices, color systems, and image-acquisitions.

ARTC 1305 Basic Graphic Design

Credit: 3 (2 lecture, 4 lab)

Graphic design with emphasis on the visual communication process. Topics include basic terminology and graphic design principles.

ARTC 1309 Basic Illustration

Credit: 3 (2 lecture, 4 lab)

Introduction to drawing techniques, skills, and concepts with various black and white media. Emphasis placed on perspective and principles of shading.

ARTC 1317 Design Communication I

Prerequisites: ARTC 1325 and ARTC 1305 or Department Approval

Credit: 3 (2 lecture, 4 lab)Study of design velopment relating to graphic design terminology, tools and media, and layout and design concepts. Topics include integration of type, images and other design elements, and developing computer skills in industry standard computer programs.

ARTC 1321 Illustration Techniques

Prerequisite: ARTC 1309 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Study of illustration techniques in various media with an emphasis on creative interpretation and draftsmanship for visual aides.

ARTC 1325 Introduction to Computer Graphics

Credit: 3 (2 lecture, 4 lab)

A survey of computer design concepts, terminology, processes, and procedures.

Course Descriptions

ARTC 1353 Computer Illustration (illustrator)

Prerequisite: ARTC 1325 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Exploration of computer programs with applications to illustration and photo manipulation and file management for reproduction. Emphasis on concept development in print and digital delivery.

ARTC 1391 Special Topics in Graphic Design, Commercial Art and Illustration

Prerequisite: Two semesters toward the degree plan or Department Approval

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Learning outcomes objectives are determined by local occupational need and business and industry trends. Each special topics course may include focus on a topic such as advanced drawing, color design or portfolio evaluation.

ARTC 2311 History of Communication Graphics

Credit: 3 (3 lecture)

Survey of the evolution of graphic arts as it relates to the history of art. Topics include formal, stylistic, social, political, economic, and historical aspects. Emphasis on the art movement, schools of thought, individuals, and technology as they interrelate with graphic arts.

ARTC 2313 Digital Publishing II (Indesign)

Prerequisites: ARTC 1305, ARTC 1325 and ETWR 1371, or Department Approval

Credit: 3 (2 lecture, 4 lab)

Layout procedures from thumbnails and roughs to final comprehensive and printing; emphasis on design principles for the creation of advertising and publishing materials, and techniques for efficient planning and documenting projects.

ARTC 2317 Typographic Design

Prerequisites: ARTC 1302, 1305, 1353, or Department Approval

Corequisites: ARTC 2313 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Exploration of problems in typographic design including computer generated letterforms as elements of design. Topics include theory and techniques of traditional, contemporary, and experimental typography for advertising and editorial usage.

ARTC 2335 Portfolio Development for Graphic Design

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

Preparation of a portfolio comprised of completed graphic design class projects. Evaluation and demonstration of portfolio presentation methods based on the student's specific area of study.

ARTC 2340 Computer Illustration II (advanced photoshop)

Prerequisite: Department Approval
Credit: 3 (2 lecture, 4 lab)

Advanced use of software capabilities with emphasis on various output procedures, the resolution of complex design issues, and concept development.

ARTC 2347 Design Communication II

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

An advanced study of design, development, and art direction. Emphasis on form and content through the selection, creation, and integration of typographic, photographic, illustrative, and design elements.

ARTC 2348 Digital Publishing III

Prerequisites: Department Approval

Credit: 3 (2 lecture, 4 lab)

A project-based page layout course from concept to completion addressing design problems, preflight of files, color separations, and trapping techniques.

ARTS 1301 Art Appreciation

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

This introduction to the visual arts is designed for the general student. The course explores what is art, who makes it, and why it is made. Core Curriculum Course.

ARTS 1303 Art History I

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

This course examines painting, sculpture, architecture and related arts covering the Paleolithic through Gothic periods. Also covered is the art of non-western cultures. This course satisfies the fine arts or cross-cultural component of the HCC core.

ARTS 1304 Art History II

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

This course examines painting, sculpture, architecture and related arts from the Early Renaissance through the Twentieth Century. Also covered is the art of non-westeren cultures. ARTS 1303 is not a prerequisite. This course satisfies the fine arts or cross-cultural component of the HCC core.

ARTS 1311 Foundation Design I (2-D Design)

Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

This beginning studio course explores the fundamentals of two-dimensional design: line, shape, texture, value, color and composition. A variety of media will be used. Recommended but not required as a first studio course. This course satisfies the fine arts component of the HCC core.

ARTS 1312 Foundation Design II (3-D Design)

Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

A beginning studio course that explores the fundamentals of three-dimensional design: line, plane, mass, surface, light and color in space. A variety of media will be used. Recommended but not required to be taken before Sculpture, Ceramics or Jewelry. This course satisfies the fine arts component of the HCC core.

ARTS 1316 Foundation Drawing I
Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

This beginning drawing course develops student's observation skills through experimentation with various approaches, styles, techniques, and media. Recommended but not required to be taken before Life Drawing, Painting or Printmaking. Foundation Drawing I is a pre-requisite for Foundation Drawing II. This course satisfies the fine arts component of the HCC core.

ARTS 1317 Foundation Drawing II

Prerequisite: ARTS 1316

Credit: 3 (2 lecture, 4 lab)

This studio course builds upon the skills learned in Drawing I. Emphasis will be upon further media experimentation and development of a personal style. Foundation Drawing I is a prerequisite. This course satisfies the fine arts component of the HCC core.

ARTS 2316 Painting I

Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

A studio course which explores painting media with an emphasis on color, composition, subject matter and technique. Painting I is a prerequisite for Painting II. This course satisfies the fine arts component of the HCC core.

ARTS 2317 Painting II

Prerequisite: ARTS 2316

Credit: 3 (2 lecture, 4 lab)

This studio course builds upon skills developed in Painting I with an emphasis on the development of personal style, subject matter, and individual expression. Painting I is a prerequisite for Painting II. This course satisfies the fine arts component of the HCC core.

ARTS 2323 Life Drawing I

Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

A drawing course focusing on the human form. Various media and techniques will be explored while drawing from a live model. Life Drawing I is a prerequisite for Life Drawing II. This course satisfies the fine arts component of the HCC Core.

ARTS 2324 Life Drawing II

Prerequisite: ARTS 2323

Credit: 3 (2 lecture, 4 lab)

This studio course builds upon skills developed in Life Drawing I, emphasizing personal style and individual expression. Further experimentation with various media and techniques will be explored while drawing from a live model. Life Drawing I is a prerequisite for Life Drawing II. This course satisfies the fine arts component of the HCC core.

ARTS 2326 Sculpture I

Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

This studio course will introduce the student to various materials, processes and elements of design. Media may include plaster, wood, clay, and found materials. Sculpture I is a prerequisite for Sculpture II. This course satisfies the fine arts component of the HCC core.

ARTS 2327 Sculpture II

Prerequisite: ARTS 2326

Credit: 3 (2 lecture, 4 lab)

A studio course which builds upon fundamentals learned in Sculpture I with an emphasis on materials and site selection, scale, and individual expression. Sculpture I is a prerequisite for Sculpture II. This course satisfies the fine arts component of the HCC core.

ARTS 2333 Printmaking I

Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

An introduction to and exploration of various relief printing, monoprinting, and intaglio processes. Printmaking I is a prerequisite for Printmaking II. This course satisfies the fine arts component of the HCC core.

ARTS 2334 Printmaking II

Prerequisite: ARTS 2333

Credit: 3 (2 lecture, 4 lab)

This course builds upon Printmaking I fundamentals and introduces additional print processes and combinations of those processes to allow individual expression. Printmaking I is a prerequisite for Printmaking II. This course satisfies the fine arts component of the HCC core.

ARTS 2341 Art Metals I

Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

Fundamentals of jewelry construction including design, fabrication, surface treatment, and stone setting. Art Metals I is a prerequisite for Art Metals II. This course satisfies the fine arts component of the HCC core.

ARTS 2342 Art Metals II

Prerequisite: ARTS 2341

Credit: 3 (2 lecture, 4 lab)

A continuation of ARTS 2341 with emphasis on individual expression, design and further material exploration. Art Metals I is a prerequisite for Art Metals II. This course satisfies the fine arts component of the HCC core.

ARTS 2346 Ceramics I

Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

This studio course is an introduction to arts, using the clay medium. Sculptural approaches to clay (slab, pinch, coil wheel) as well as surface treatment will be investigated. Glaze making and kiln technology will be introduced. Ceramics I is a prerequisite for Ceramics II. This course satisfies the fine arts component of the HCC core.

ARTS 2347 Ceramics II

Prerequisite: ARTS 2346

Credit: 3 (2 lecture, 4 lab)

This studio course builds on knowledge acquired in Ceramics I. Emphasis will be on form and surface experimentation, as well as development of personal expression. Traditional and nontraditional uses of clay will be explored. Ceramics I is a prerequisite for Ceramics II. This course satisfies the fine arts component of the HCC core.

ARTS 2348 Digital Arts I

Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

This studio course is an introduction to art using the computer. Digital approaches to imagery will be investigated using various tools (possibilities include cameras, scanners, printers, etc.) and software. Emphasis will be placed on creating original images as well as manipulating existing images. This course satisfies the fine arts component of the HCC core.

ARTS 2349 Digital Arts II

Prerequisite: ARTS 2348 or ARTS 2344

Credit: 3 (2 lecture, 4 lab)

This studio art course builds upon the skills learned in Digital Art I. Emphasis will be upon further media experimentation and development of a personal style. Digital Art I is a prerequisite for Digital Arts II. This course satisfies the fine arts component of the HCC core.

ARTS 2356 Photography I

Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

An introduction to basic photographic processes including black and white film processing and printing. The student will examine various aesthetic approaches to photographing as well as some history of photography. This course will emphasize aesthetic aspects of photography such as design and composition, as well as content. Photography I is a prerequisite for Photography II. This course satisfies the fine arts component of the HCC core.

ARTS 2357 Photography II

Prerequisite: ARTS 2356

Credit: 3 (2 lecture, 4 lab)

This course will build on previously acquired skills of black and white film exposure, processing and printing and guide students in developing personal outlooks toward specific applications of the photographic process. Photography I is a prerequisite for Photography II. This course satisfies the fine arts component of the HCC core.

ARTS 2366 Watercolor I

Prerequisite: None

Credit: 3 (2 lecture, 4 lab)

A studio course that explores watercolor media with an emphasis on color, composition, self-expression, and technique. This course satisfies the fine arts component of the HCC core.

Course Descriptions

ARTS 2367 Watercolor II

Prerequisite: ARTS 2366

Credit: 3 (2 lecture, 4 lab)

This studio course builds upon skills developed in Watercolor I with an emphasis on the development of personal style, subject matter, and individual expression. Watercolor I is a prerequisite for Watercolor II. This course satisfies the fine arts component of the HCC core.

ARTV 1341 3-D Animation I

Prerequisite: ARTV 1345

Credit: 3 (2 lecture, 4 lab)

Three-dimensional (3-D) modeling and rendering techniques including lighting, staging, camera, and special effects. Emphasizes 3-D modeling building blocks using primitives to create simple and complex objects.

ARTV 1343 Digital Sound

Prerequisites: GAME 1212 and GAME 1306

Credit: 3 (2 lecture, 4 lab)

Digitizing sound and incorporating it into multimedia or web titles for various delivery systems. Emphasizes compression issues, sampling, synchronizing, and resource management.

ARTV 1345 3-D Modeling and Rendering I

Prerequisite: ARTC 1302 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Techniques of three-dimensional (3-D) modeling utilizing appropriate software. Includes the creation and modification of 3-D geometric shapes, use of a variety of rendering techniques, camera light sources, texture, and surface mapping.

ARTV 1351 Digital Video

Prerequisite: IMED 1301

Credit: 3 (2 lecture, 4 lab)

Producing and editing video and sound for multimedia or web productions. Emphasizes capture, editing, and outputting of video using a desktop digital video workstation.

ARTV 2301 2-D Animation I (FLASH)

Prerequisites: IMED 1316, IMED 1341, ITSE 2313, or Department Approval

Credit: 3 (2 lecture, 4 lab)

Skill development in the use of software to develop storyboards and two-dimensional animation including creating, importing, and sequencing media elements to create multimedia presentation. Emphasis on conceptualization, creativity, and visual aesthetics.

ARTV 2330 2-D Animation II

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

Technical aspects of traditional animation. Emphasizes aesthetic design and completion of an advanced animation project. Includes application of advanced skills and knowledge.

ARTV 2341 Advanced Digital Video

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

Advanced digital video techniques for post-production. Emphasizes generation and integration of special effects, 2-D animation and 3-D animation for film, video, CD-ROM, and the Internet. Exploration of new and emerging compression and video streaming technologies.

ARTV 2351 3-D Animation II

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

Skill development in three-dimensional modeling and rendering techniques using lighting, staging, and special effects for digital output. Emphasis on the production of three-dimensional (3-D) animation as final digital outputting using modeling, rendering and animation software.

ASTR 1303 Stars and Galaxies

Prerequisites: Must be placed into GUST 0341 (or higher) in reading and placed into Math 0312 (or take Math 0308 as a co-requisite).

Credit: 3 (3 lecture)

An introduction to the present cosmological theories about the structure and evolution of the universe. A comparison with previous models since antiquity. A study of the celestial sphere and the constellations, the motions in the sky. A study of gravity, light, radiation, optics, telescopes and spacecraft. A survey of the stars, clusters, galaxies, superclusters, their properties, structure and evolution. Core curriculum course.

ASTR 1304 Solar System Astronomy

Prerequisites: Must be placed into GUST 0341 (or higher) in reading and placed into Math 0312 (or take Math 0308 as a co-requisite).

Credit: 3 (3 lecture)

An introduction to present theories about the structure and evolution of the solar system, compared to other models and theories since antiquity. A survey of the Sun, planets, moons, rings, asteroids, comets and debris in our solar system. The possibility of life in the Universe. Core curriculum course.

ASTR 1403 Stars and Galaxies

Prerequisites: Must be placed into GUST 0341 (or higher) in reading and placed into Math 0312 (or take Math 0308 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

An introduction to the present cosmological theories about the structure and evolution of the universe. A comparison with previous models since antiquity. A study of the celestial sphere and the constellations, the motions in the sky. A study of gravity, light, radiation, optics, telescopes and spacecraft. A survey of the stars, clusters, galaxies, superclusters, their properties, structure and evolution. Laboratory includes an introduction to observational techniques using telescopes, in-class projects/ exercises on spectroscopy, stellar positions, solar heating, planetary motions, solar and astrophotography, star clusters, galaxies, and cosmology. Core curriculum course.

ASTR 1404 Solar System Astronomy

Prerequisites: Must be placed into GUST 0341 (or higher) in reading and placed into Math 0312 (or take Math 0308 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

An introduction to present theories about the structure and evolution of the solar system, compared to other models and theories since antiquity. A survey of the Sun, planets, moons, rings, asteroids, comets and debris in our solar system. The possibility of life in the Universe. Laboratory topics include planetary, lunar and solar observations with telescopes and/or the naked eye; measurements of the gravitational constant, gravitational acceleration and the speed of light; analysis of spectra and spacecraft images; and impact cratering simulations. Core curriculum course.

AUMT 1305 Introduction to Automotive Technology

Credit: 3 (2 lecture, 4 lab)

An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, fasteners, professional responsibilities, and automotive maintenance. May be taught manufacturer specific.

AUMT 1306 Automotive Engine Removal and Installation

Credit: 3 (2 lecture, 4 lab)

Fundamentals of engine inspection, removal and installation procedures. May be taught manufacturer specific.

AUMT 1307 Automotive Electrical Systems

Credit: 3 (2 lecture, 4 lab)

An overview of automotive electrical systems including topics in operational theory, testing, diagnosis, and repair of batteries, charging and starting systems, and electrical accessories. Emphasis on electrical schematic diagrams and service manuals. May be taught manufacturer specific.

AUMT 1310 Automotive Brake Systems

Credit: 3 (2 lecture, 4 lab)

Operation and repair of drum/disc type brake systems. Emphasis on safe use of modern equipment. Topics include brake theory, diagnosis, and repair of power, manual, anti-lock brake systems, and parking brakes. May be taught with manufacturer specific instructions.

AUMT 1316 Automotive Suspension and Steering Systems

Credit: 3 (2 lecture, 4 lab)

A study of automotive suspension and steering systems including tire and wheel problem diagnosis, component repair, and alignment procedures. May be taught manufacturer specific.

AUMT 1319 Automotive Engine Repair

Credit: 3 (2 lecture, 4 llab)

Fundamentals of engine operation, diagnosis and repair including lubrication systems and cooling systems. Emphasis on overhaul of selected engines, identification and inspection, measurements, and disassembly, repair, and reassembly of the engine. May be taught manufacturer specific.

AUMT 1345 Automotive Heating and Air Conditioning

Credit: 3 (2 lecture, 4 lab)

Theory of automotive air conditioning and heating systems. Emphasis on the basic refrigeration cycle and diagnosis and repair of system malfunctions. Covers EPA guidelines for refrigerant handling and new refrigerant replacements. May be taught manufacturer specific.

AUMT 1380 Cooperative Education-Automobile/Automotive Mechanics Technology/Technician

Prerequisite: Department Approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

AUMT 2209 Automotive Drive Train and Axle Theory

Credit: 2 (2 lecture, 1 lab)

A study of automotive clutches, clutch operation devices, manual transmissions/transaxles, and differentials. Emphasis on theory and diagnosis of transmission/transaxle and drive line components.

AUMT 2223 Theory of Automatic Transmission and Transaxle

Credit: 2 (2 lecture, 1 lab)

Theory of operation, hydraulic principles, and related circuits of modern automatic transmissions and transaxles. Discussion of diagnosing and repair techniques.

AUMT 2313 Automotive Drive Train and Axles

Credit: 3 (2 lecture, 4 lab)

A study of automotive clutches, clutch operation devices, manual transmissions/ transaxles, and differentials with emphasis on the diagnosis and repair of transmissions/transaxles and drive lines. May be taught with manufacturer specific instructions.

AUMT 2317 Engine Performance Analysis I

Credit: 3 (2 lecture, 4 lab)

Theory, operation, diagnosis, and repair of basic engine dynamics, ignition systems, and fuel delivery systems. Use of basic engine performance diagnostic equipment. May be taught manufacturer specific.

AUMT 2321 Automotive Electrical Lighting and Accessories

Credit: 3 (2 lecture, 4 lab)

Repair of automotive electrical subsystems, lighting, instrumentation, and accessories. Emphasis on accurate diagnosis and proper repair methods using various troubleshooting skills and techniques. May be taught manufacturer specific.

AUMT 2325 Automatic Transmission and Transaxle

Credit: 3 (2 lecture, 4 lab)

A study of the operation, hydraulic principles, and related circuits of modern automatic transmissions and automatic transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and proper repair techniques. May be taught manufacturer specific.

AUMT 2328 Automotive Service

Credit: 3 (2 lecture, 4 lab)

Mastery of automotive vehicle service and component systems repair. Emphasis on mastering current automotive competencies covered in related courses. May be taught manufacturer specific.

AUMT 2334 Engine Performance Analysis II

Credit: 3 (2 lecture, 4 lab)

Diagnosis and repair of emission systems, computerized engine performance systems, and advanced ignition and fuel systems; and proper use of advanced engine performance diagnostic equipment. May be taught manufacturer specific.

AUMT 2437 Automotive Electronics

Credit: 4 (2 lecture, 4 lab)

Topics address electrical principles, semiconductor and integrated circuits, digital fundamentals, microcomputer systems, and electrical test equipment as applied to automotive technology. May be taught manufacturer specific.

AUMT 2455 Automotive Engine Machining

Credit: 4 (2 lecture, 4 lab)

In-depth coverage of precision engine rebuilding, cylinder reconditioning, and crack repair. Instruction in machines and equipment necessary to complete an engine repair. May be taught with manufacturer specific instructions.

BCIS 1405 Business Computer Application

Prerequisite: Must be at college-level skills in reading, writing, and mathematics (i.e. no remediation needed) and have had high school computer literacy or equivalent.

Credit: 4 (3 lecture, 3 lab)

Computer terminology, hardware, software, operating systems, and information systems relating to the business environment. The main focus of this course is on business applications of software, including word processing, spreadsheets, databases, presentation graphics, and business-oriented utilization of the Internet.

BIOL 1108 Introductory Biology Laboratory I

Prerequisite/Corequisite: BIOL 1308

Credit: 1 (3 lab)

Selected laboratory experiments related to topics in BIOL 1308 (Introductory Biology I) for non-majors.

BIOL 1109 Introductory Biology Laboratory II

Prerequisite/Corequisite: BIOL 1309

Credit: 1 (3 lab)

Selected laboratory experiments related to topics in BIOL 1309 (Introductory Biology I) for non-majors.

Course Descriptions

BIOL 1308 Introductory Biology I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Topics include basic chemistry, cell morphology and physiology, photosynthesis and respiration, cell division, and classical and molecular genetics. Core Curriculum Course. Note: Only one of BIOL 1308 or BIOL 1406 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

BIOL 1309 Introductory Biology II

Prerequisite: BIOL 1308, Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Topics include evolution, classification and ecological relationships, and organ systems of animals and plants. Core Curriculum Course. Note: Only one of BIOL 1309 or BIOL 1407 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

BIOL 1322 Basic Nutrition

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A course designed to teach the fundamentals of nutrition based on basic nutrition principles. Scientific standard recommendations of levels of nutrient intake for a healthy population are discussed. Sources and functions of carbohydrates, proteins, fats, vitamins and minerals are also studied. (cross listed with HECO 1322). Core curriculum course

BIOL 1406 General Biology I

Prerequisite: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Discussions focus on biological chemistry, biological processes, cellular morphology, metabolism, genetics and molecular biology. Note: Only one of BIOL 1308 or BIOL 1406 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

BIOL 1407 General Biology II

Prerequisite: BIOL 1406, Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Topics include evolution, classification and ecological relationships, and organ systems of animals and plants. Core Curriculum Course. Note: Only one of BIOL 1309 or BIOL 1407 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

BIOL 1411 General Botany

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Plant science including survey of the plant kingdom, photosynthesis, respiration, anatomy, reproduction, ecology, and vascular plant taxonomy. Core Curriculum Course.

BIOL 1413 General Zoology

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

A general overview of the animal kingdom including principles, life histories, and classification. Emphasis is placed on the vertebrates. Core Curriculum Course.

BIOL 2401 Anatomy and Physiology I

Prerequisites: While BIOL 1406 is not a required prerequisite for 2401, 1406 is highly recommended for success in 2401. Also, must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).
Credit: 4 (3 lecture, 3 lab)

Study of the structure and function of human cells, tissues, and organ systems including integumentary skeletal, muscular, and nervous systems. Core Curriculum Course.

BIOL 2402 Anatomy and Physiology II

Prerequisite: BIOL 2401

Credit: 4 (3 lecture, 3 lab)

Continuation of BIOL 2401 including the circulatory, respiratory, digestive, excretory, reproductive and endocrine systems. Core Curriculum Course.

BIOL 2406 Environmental Biology

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Human interaction with and effect upon plant and animal communities. Conservation, pollution, energy, and other contemporary ecological problems. Core Curriculum Course.

BIOL 2416 Genetics

Prerequisite: BIOL 1406; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Study of the principles of molecular and classical genetics and the function and transmission of hereditary material. May include population genetics and genetic engineering. Core curriculum course.

BIOL 2420 Microbiology

Prerequisite: BIOL 1406; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Study of microorganisms including morphology, metabolism, taxonomy, culture techniques, microbial genetics, immunology, bacteriology, virology, mycology, parasitology, and diseases. Core Curriculum Course.

BIOL 2428 Comparative Anatomy

Prerequisite: BIOL 1407; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Comparative studies of the evolution of the vertebrate body including morphology, physiology, embryology, taxonomy, and paleontology. Core Curriculum Course.

BIOM 1309 Applied Biomedical Equipment Technology

Prerequisite: CETT 1429, CETT 1425

Credit: 3 (2 lecture, 3 lab)

Introduction to biomedical instrumentation as related to anatomy and physiology. Detailed coverage of anatomical systems that use medical equipment for monitoring, diagnosis, and treatment.

BIOM 2331 Biomedical Clinical Instrumentation

Prerequisites: CETT 1429, CETT 1425, BIOM 1309

Credit: 3 (2 lecture, 3 lab)

A study of theory, application, and principles of operation of instruments commonly used in a medical laboratory.

BIOM 2489 Internship- Biomedical Technology/Technician

Prerequisite: 30 credit hours of CETT courses and Department Approval

Credit: 4 (1 lecture, 19 lab)

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.

BITC 1311 Introduction to Biotechnology

Credit: 3 (3 lecture)

An introduction to biotechnology including career exploration, history and applications of DNA/RNA technology, molecular biology, bioethics, and laboratory safety practices.

BITC 1370 Introduction to Biochemistry

Credit: 3 (3 lecture)

The study of the knowledge of the structure, function, and cellular metabolism of various biomolecules. The course will deal with the intra-and intermolecular conversion of biomolecules. Knowledge in this area is directly applicable to the fields of analysis and processing of biomolecules and their pertenence to biotechnology as it relates to biopharmaceuticals, biodianostics, fermentation, and bio-manufactureing.

BITC 1402 Biotechnology Laboratory Methods and Techniques

Prerequisite/Corequisite: BITC 1311 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Laboratory operations, management, equipment, instrumentation, quality control techniques, and safety procedures. Includes laboratory practice in using pH meters, mixing buffers, performing measurements, preparing solutions, and performing separatory techniques.

BITC 1445 Medical Biotechnology

Prerequisite: BITC 1370 and BITC 1402 or Department Approval

Credit: 4 (2 lecture, 4 lab)

Biotechnology as it applies to medicine and medical research. Includes molecular mechanisms underlying diseases such as cancer, diabetes, heart disease, and AIDS. Covers the applications of biotechnology to the diagnosis and treatment of disease as well as the development of drugs and therapeutic agents. Emphasizes research and medical-related biotechnology methods and laboratory procedures.

BITC 1491 Special Topics in Biological Technology/Technician

Prerequisite: BITC 1402 or Department Approval

Credit: 4 (3 lecture, 3 lab)

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.

BITC 2386 Internship - Biology Technician/Biotechnology Laboratory Technician

Prerequisite: BITC 1402 and Department Approval

Credit: 3 (1 lecture, 20 lab)

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.

BITC 2411 Biotechnology Laboratory Instrumentation

Prerequisite: BITC 1402 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Theory, applications, and operation of various analytical instruments. Addresses separation and identification techniques including electrophoresis, spectrophotometry, and chromatography.

BITC 2431 Cell Culture Techniques

Prerequisite: BITC 1402 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Theory and applications of cell culture techniques. Laboratory emphasis on the principles and practices of initiation, cultivation, maintenance, preservation of cell lines and applications.

BITC 2441 Molecular Biology Techniques

Prerequisite: BITC 2411 or Department Approval

Credit: 4 (3 lecture, 3 lab)

In depth coverage of the theory and laboratory techniques in molecular biology with an emphasis on gene expression and regulation, recombinant DNA, and nucleic acids.

BITC 2472 Immunological Methods and Techniques

Prerequisite: BITC 1402 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Study of the principles and practices of modern immunology including the interactions among the various cellular and chemical components of immune response. Emphasis on the techniques used in the biotechnology industry involved in manufacturing of immunotherapeutic agents and biopharmaceuticals. Knowledge in this area is directly applicable to the fields of biopharmaceuticals, bio-diagnostics, fermentation and bio manufacturing.

BMGT 1301 Supervision

Credit: 3 (3 lecture)

A study of the role of the supervisor. Managerial functions as applied to leadership, counseling, motivation, and human skills are examined.

BMGT 1303 Principles of Management

Credit: 3 (3 lecture)

Concepts, terminology, principles, theories, and issues in the field of management.

BMGT 1313 Principles of Purchasing

Credit: 3 (3 lecture)

The purchasing process as it relates to such topics as inventory control, price determination, vendor selection, negotiation techniques, and ethical issues.

BMGT 1323 Purchasing

Credit: 3 (3 lecture)

A study of the purchasing process and the basis of sound purchasing decisions; materials management; selection and evaluation of suppliers/vendors; price, quality, and value determinants; and issues that require legal or ethical consideration.

BMGT 1325 Office Management

Credit: 3 (3 lecture)

Systems, procedures, and practices related to organizing and planning office work, controlling employees' performance, and exercising leadership skills.

BMGT 1331 Production and Operations Management

Credit: 3 (3 lecture)

Fundamentals of the various techniques used in the practice of production management to include location, design, and resource allocation.

Course Descriptions

BMGT 1391 Introduction to Human Resources/PeopleSoft Applications

Prerequisites: POFI 1301 and POFT 1329

Credit: 3 (2 lecture, 3 lab)

(Computer Lab required)

A hands-on overview of the major areas of human resources/PeopleSoft as illustrated by PeopleSoft software applications. Some topics will cover accessing PeopleSoft, navigating the PeopleSoft interface, understanding PeopleSoft panels, using PeopleSoft panels, and creating queries.

BMGT 1394 Intermediate Human Resources/PeopleSoft Applications

Prerequisite: BMGT 1391

Credit: 3 (2 lecture, 3 lab)

(Computer Lab required)

A continuation of Introduction to Human Resources/PeopleSoft with intermediate PeopleSoft software applications. Additional topics will include: understanding PeopleSoft Processes, PeopleSoft HRMS (Human Resource Management Systems), PeopleSoft HRMS modules, and advanced query topics.

BMGT 2305 Advanced Communication in Management/PeopleSoft Applications (Team Work and Case Studies)

Prerequisite: BMGT 1394

Credit: 3 (2 lecture, 2 lab)

(Computer Lab required)

Putting it all together/PeopleSoft: group projects, team applications, and implementation of results.

BMGT 2310 Financial Management/ PeopleSoft Applications

Prerequisite: BMGT 1394

Credit: 3 (2 lecture, 3 lab)

(Computer Lab required)

Integration of Financial Management PeopleSoft into Human Resource functions, such as payroll, budgets, and benefits and administration.

BMGT 2331 Total Quality Management/ PeopleSof Applications

Prerequisite: BMGT 2310

Credit: 3 (2 lecture, 3 lab)

(Computer Lab required)

Quality of productivity in organizations using PeopleSoft Applications. Includes planning for quality PeopleSoft reports, implementation of reports, development of reports for business decision-making. Additional topics will include accessing and setting up queries, aggregating totals, using SQR with PeopleSoft, and reporting tables.

BNKG 1303 Principles of Bank Operation

Credit: 3 (3 lecture)

Overview of the fundamental banking functions and the role of regulation in the banking industry. Explanation of financial products and services to various markets.

BNKG 1305 Teller Training

Credit: 3 (3 lecture)

Application of the functions related to negotiable instruments, cash control, handling money, and balancing. Explanation of compliance and regulation issues affecting bank tellers.

BNKG 1340 Money and Banking

Credit: 3 (3 lecture)

Monetary policy and its related effects on financial intermediaries. Includes financial markets, regulatory functions, and structures. Addresses investment and funds management.

BNKG 1345 Consumer Lending

Credit: 3 (3 lecture)

A study of the different types of consumer loans. Identify the federal regulations and state laws pertaining to collection and serving of a consumer loan and relate consumer credit to the lending process.

BNKG 1349 Commercial Lending

Credit: 3 (3 lecture)

Overview of the commercial lending market and process with an emphasis on credit analysis, evaluation, federal regulation, and state laws related to business and industrial lending.

BNKG 1351 Selling Bank Products and Services

Credit: 3 (3 lecture)

Characteristics and benefits of bank products and services. Emphasis on the personal selling process and quality customer service. Application of personal selling, cross-selling, and related product benefits to individual customer needs.

BNKG 1353 Mortgage Lending

Credit: 3 (3 lecture)

Overview of the mortgage lending market and process with an emphasis on documentation, credit evaluation, federal regulation, and state laws related to mortgage loans.

BNKG 1356 Analyzing Financial Statements I

Prerequisite: ACCT 2301

Credit: 3 (3 lecture)

A study of the process of evaluating financial statements, cash flow, and ratio analysis of individuals and businesses with an emphasis on the relationship of comparative analysis and industry standards.

BNKG 1357 Investor Accounting

Prerequisite: ACCT 2301

Credit: 3 (3 lecture)

An introduction to accounting and investor reporting functions that relate to the financial aspects of servicing mortgages that are in the first or second position. Topics include custodial and remittance accounting methods, reporting procedures, and rules for establishment of a custodial account.

BNKG 1373 Teller Training Lab

Prerequisite: BNKG 1305

Credit: 3 (3 lecture)

An alternate continuation of BNKG 1305 Teller Training, this course affords the student practical, hands-on experience in paying and receiving teller operations. Students develop skills such as cash handling, cash drawer setup, maintenance, security and daily balancing, processing of basic paying and receiving customer transactions, quoting funds availability, implementing security precautions, operating ten-key terminal, and using automated teller machines via daily practice in a lab setting.

BNKG 1380 Cooperative Education - Banking and Financial Support Services

Prerequisite: Department Approval

Credit: 3 (I lec, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

BNKG 2374 Financial Business Administration

Prerequisite: BNKG 1340

Credit: 3 (3 lecture)

Course emphasizes the managerial responsibility of coordinating the many facets of a financial institution. The course covers administration in a regulatory environment, portfolio mix, and the various changes that are happening in this fast paced industry. Special attention is placed on investment areas in which customers are allowed to participate, which banks must have a working knowledge of but are not allowed to invest in.

BNKG 2380 Cooperative education - Banking and Financial Support Services
Prerequisite: Department Approval
Credit: 3 (1 lecture, 20 lab)
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

BNKG 2381 Cooperative education - Banking and Financial Support Services
Prerequisite: Department Approval
Credit: 3 (1 lecture, 20 lab)
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

BUSG 1301 Introduction to Business
Credit: 3 (3 lecture)
Fundamental business principles including structure, functions, resources, and operational processes.

BUSG 1303 Principles of Finance
Credit: 3 (3 lecture)
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 1370 Personal Financial Planning
Credit: 3 (3 lecture)
An exploration of financial planning that emphasizes topics of personal interest but also have application to business financial planning topics. Topics include budgeting, bank accounts and account reconciliation, individual retirement accounts, loans, investments, debt management, real estate, insurance, wills, trusts, and taxes.

BUSG 1371 Principles of Securities Operations
Credit: 3 (3 lecture)
An overview of the fundamental functions and the role of regulation in the securities industry. Explanation of securities products and services to a variety of markets.

BUSG 1372 Communications for Securities professionals
Credit: 3 (3 lecture)
An overview of the fundamental functions and the role of regulation in the securities industry. Explanation of securities products and services to a variety of markets.

BUSG 1391 Special Topics in Business, General
Credit: 3 (3 lecture)
Topic addresses 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.

BUSG 2305 Business Law/Contracts
Credit: 3 (3 lecture)
Principles of law which form the legal framework for business activity including applicable statutes, contracts, and agency.

BUSG 2309 Small Business Management
Credit: 3 (3 lecture)
A course on how to start and operate a small business. Topics include facts about a small business, essential management skills, how to prepare a business plan, financial needs, marketing strategies, and legal issues.

BUSG 2317 Business Law/ Commercial
Credit: 3 (3 lecture)
The relationship of law and business as they relate to commercial transactions.

BUSG 2380 Cooperative Education - Business/Commerce, General
Prerequisite: Department Approval or BMGT 1303
Credit: 3 (1 lecture, 20 lab)
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

BUSG 2381 Cooperative Education - Business/Commerce, General
Prerequisite: Department Approval or BMGT 1301 and BMGT 1303, BUSG 1301
Credit: 3 (1 lecture, 20 lab)
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

CDEC 1303 - see teca 1303
CDEC 1311 - see teca 1311

CDEC 1313 Curriculum Resources for Early Childhood Programs
Credit: 3 (2 lecture, 3 lab)
A study of the fundamentals of curriculum design and implementation in developmentally appropriate programs for children.

CDEC 1317 Child Development Associate training I
Credit: 3 (2 lecture, 2 lab)
Based on the requirements for the Child Development Associate National Credential (CDA). Topics on CDA overview, general observational skills, and child growth and development overview. The four functional areas of study are creative, cognition, physical and communication.

CDEC 1318 - see teca 1318
CDEC 1319 Child Guidance
Credit: 3 (2 lecture, 2 lab)
An exploration of guidance strategies for promoting prosocial behaviors with individual and groups of children. Emphasis on positive guidance principles and techniques, family involvement, and cultural influences. Practical application through direct participation with children.

CDEC 1321 The Infant and Toddler
Credit: 3 (2 lecture, 3 lab)
A study of appropriate infant and toddler (birth to 3), including an overview of development, quality care giving routines, appropriate environments, materials and activities, and teaching/guidance techniques.

CDEC 1323 Observation and Assessment
Credit: 3 (3 lecture)
A study of observation skills, assessment techniques, and documentation of children's development.

CDEC 1354 - see teca 1354

CDEC 1356 Emergent Literacy for Early Childhood
Prerequisite/Corequisite: CDEC 1313
Credit: 3 (2 lecture, 3 lab)
An exploration of principles, methods, and materials for teaching young children language and literacy through a play-based, integrated curriculum.

CDEC 1358 Creative Arts for Early Childhood
Prerequisite/Corequisite: CDEC 1313
Credit: 3 (2 lecture, 3 lab)
An exploration of principles, methods, and materials for teaching young children music, movement, visual arts and dramatic play through process-oriented experiences to support divergent thinking.

CDEC 1359 Children with Special Needs
Credit: 3 (2 lecture, 2 lab)
A survey of information regarding children with special needs including possible causes and characteristics of exceptionality, educational intervention, available resources, referral processes, the advocacy role and legislative issues.

Course Descriptions

CDEC 1391 Special Topics in Family Life and Relations Studies

Credit: 3 (3 lecture)

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.

CDEC 1393 Special Topics in Family Living and Parenthood

Prerequisite: CDEC 1356, 1358 or 2307

Credit: 3 (3 lecture)

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.

CDEC 1394 Special Topics in Child Care Provider/Assistant

Credit: 3 (3 lecture)

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.

CDEC 2186 Internship - Child Care Provider/Assistant

Prerequisite: Department Approval

Credit: 1 (6 lab)

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.

CDEC 2280 Cooperative Education - Early Childhood Provider/Assistant

Prerequisite: Department Approval

Credit: 2 (1 lecture, 10 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

CDEC 2307 Math and Science for Early Childhood

Prerequisite/Corequisite: CDEC 1313

Credit: 3 (2 lecture, 3 lab)

An exploration of principles, methods, and materials for teaching children math and science concepts and process skills through discovery and play.

CDEC 2322 Child Development Associate Training

Credit: 3 (2 lecture, 2 lab)

A continuation of the study of the requirements for the Child Development Associate National Credential (CDA). The six functional areas of study include safe, healthy, learning environment, self, social, and guidance.

CDEC 2324 Child Development Associate Training III

Credit: 3 (2 lecture, 2 lab)

A continuation of the requirements for the Child Development Associate National Credential (CDA). Three of the 13 functional areas of study include family, program management, and professionalism.

CDEC 2326 Administration of Programs for Children I

Prerequisite: CDEC 1356, 1358 or 2307

Credit: 3 (3 lecture)

Application of management procedures for early child care education programs. Includes planning, operating, supervising, and evaluating programs. Topics cover philosophy, types of programs, policies, fiscal management, regulations, staffing, evaluation, and communication.

CDEC 2328 Administration of Programs for Children II

Prerequisite: CDEC 2326

Credit: 3 (3 lecture)

An in-depth study of the skills and techniques in managing early care and education programs, including legal and ethical issues, personal management, team building, leadership, conflict resolution, stress management advocacy, professionalism, fiscal analysis and planning parent education/partnerships, and technical applications in programs.

CDEC 2341 The School Age Child

Credit: 3 (2 lecture, 3 lab)

A study of appropriate programs for the school age child (5 to 13 years), including an overview of development, appropriate environments, materials, and activities and teaching/guidance techniques.

CDEC 2380 Cooperative Education - Early Childhood Provider/Assistant

Prerequisite: Department Approval

Credit: 3 (1 lecture, 15 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

CETT 1321 Electronic Fabrication

Credit: 3 (2 Lecture, 4 Lab)

A study of electronic circuit fabrication techniques including printed circuit boards, wire wrapping, bread boarding, and various soldering techniques.

CETT 1331 Technical Programming

Prerequisite: MATH 0312 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Introduction to a high level programming language such as VISUAL BASIC, PASCAL, or "C." Topics include structured programming and problem solving for technical applications. The student will demonstrate knowledge of programming methods by developing and executing programs that solve technical problems.

CETT 1403 DC Circuits

Prerequisite: MATH 0312 or equivalent test score

Credit: 4 (3 lecture, 3 lab)

A study of the fundamentals of direct current including Ohm's law, Kirchoff's laws and circuit analysis techniques. Emphasis on circuit analysis of resistive networks and DC measurements. The student will analyze DC circuits from the simple to the complex; construct and make measurements of DC circuits from the simple to the complex; memorize the resistor color code; and identify a resistor by its electronic symbol.

CETT 1405 AC Circuits

Prerequisite: CETT 1403

Corequisite: MATH 1316

Credit: 4 (3 lecture, 3 lab)

A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers, and resonance; introduction to filters.

CETT 1409 DC-AC Circuits

Credit: 4 (2 lecture, 4 lab)

Fundamentals of DC circuits and AC circuits operation including Ohm's law, Kirchoff's laws, networks, transformers, resonance, phasors, capacitive and inductive and circuit analysis techniques.

CETT 1415 Digital Applications

Credit: 4 (3 lecture, 2 lab)

An investigation of combinational and sequential logic elements and circuits with emphasis on design and troubleshooting of combinational and sequential circuits.

CETT 1425 Digital Fundamentals

Corequisite: CETT 1403 or Department Approval

Credit: 4 (3 lecture, 3 lab)

An entry level course in digital electronics covering number systems, binary mathematics, digital codes, logic gates, Boolean algebra, Karnaugh maps, and combinational logic. Emphasis on circuit logic analysis and troubleshooting digital circuits including counters, registers, code converters, and multiplexers.

CETT 1429 Solid State Devices

Prerequisite/Corequisite: CETT 1405

Credit: 4 (3 lecture, 3 lab)

A study of diodes and bipolar semiconductor devices, including analysis of static and dynamic characteristics, biasing-techniques, and thermal considerations of solid state devices.

CETT 1441 Solid State Circuits

Prerequisite: CETT 1429 or Department Approval

Credit: 4 (3 lecture, 2 lab)

Study of various semiconductor devices incorporated in circuits and their applications. Emphasizes circuit construction, measurements and analysis.

CETT 1445 Microprocessor

Prerequisite: CETT 1425 or Department Approval

Credit: 4 (3 lecture, 3 lab)

An introductory course in microprocessor software and hardware, its architecture, timing sequence, operation, and programming, and discussion of appropriate software diagnostic language and tools.

CETT 1449 Digital Systems

Prerequisite: Department Approval

Credit: 4 (3 lecture, 2 lab)

A course in electronics covering digital systems. Emphasis on application and troubleshooting digital systems using counters, registers, code converters, multiplexers, analog-to-digital to-analog circuits, and large-scale integrated circuits.

CETT 1457 Linear Integrated Circuits

Prerequisite: CETT 1429 or Department Approval

Credit: 4 (3 lecture, 3 lab)

A study of the characteristics, operations, stabilization, testing, and feedback techniques of linear integrated circuits. Application in computation, measurements, instrumentation, and active filtering.

CETT 1491 Special Topics in Computer Engineering Technology/Technician

Prerequisite: Department Approval

Credit: 4 (3 lecture, 2 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

CETT 2433 Digital Computer Circuits

Prerequisite: Department Approval

Credit: 4 (3 lecture, 2 lab)

A study of the three major component systems of a digital computer including arithmetic logic operations, RAM and ROM memory, and control. Student will explain operation of systems; construct and troubleshoot computer circuits utilizing systems; describe function of the BIOS (Basic Input Output System) and how computer knows what to address when first cold booted.

CETT 2435 Advanced Microprocessor

Prerequisite: CETT 1445, CETT 1457 or Department Approval

Credit: 4 (3 lecture, 3 lab)

An advanced course utilizing the microprocessor in control systems and interfacing. Emphasis on microprocessor hardware and implementation of peripheral interfacing.

CETT 2439 Amplifier Analysis

Prerequisite: Department Approval

Credit: 4 (3 lecture, 2 lab)

Advanced study of electronic amplifier applications including op-amps, audio amps, video amps, and high frequency amplifiers.

CETT 2449 Research and Project Design

Prerequisite/Corequisite: CETT 1429 or Department Approval

Credit: 4 (3 lecture, 2 lab)

Principles of electrical/electronic design encompassing schematics wiring diagrams, materials lists, operating characteristics, completion schedules, and cost estimates. The student will build a project using the principles of the electric/electronic design process, write an operations procedure, and demonstrate the operation of the project's function.

CHEF 1191 Special Topics in Culinary Arts/Chef Training

Credit: 1 (1 lecture)

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.

CHEF 1291 Special Topics in Culinary Arts/Chef Training

Credit: 2 (2 lecture)

Topics address recently identified current events, skills, knowledge's, 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.

CHEF 1301 Basic Food Preparation

Corequisites: CHEF 2201 and 2231

Credit: 3 (2 lecture, 4 lab)

A study of the fundamental principles of food preparation and cookery to include Brigade System, cooking techniques, materials handling, heat transfer, sanitation, safety, nutrition, and professionalism.

CHEF 1302 Principles of Healthy Cuisine

Prerequisites: CHEF 1301, 1305, 2201 and 2231

Credit: 3 (2 lecture, 4 lab)

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.

CHEF 1305 Sanitation and Safety

Credit: 3 (3 lecture)

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

Prerequisites: CHEF 1301, 1305, 2201 and 2231

Credit: 3 (2 lecture, 4 lab)

A study of specialty foods and garnishes. Emphasis on design, techniques, and display of fine foods.

CHEF 1313 Food Service Operation Systems I

Credit: 3 (3 lecture)

An overview of the information needs of food and lodging properties. Emphasis on both front, back, and material management utilizing computer systems.

CHEF 1314 A´ la Carte Cooking

Prerequisites: CHEF 1301, 1305, 2201 and 2231

Credit: 3 (2 lecture, 4 lab)

A course in a la carte or "cooking to order" concepts. Topics include menu and recipe interpretation and conversion, organization of work station, employment of appropriate cooking methods, plating, and saucing principles.

Course Descriptions

CHEF 1341 American Regional Cuisine

Prerequisites: CHEF 1301, 1305, 2201 and 2231

Credit: 3 (2 lecture, 4 lab)

A study of the development of regional cuisines in the United States with emphasis on the similarities in production and service systems. Application of skills to develop, organize, and build a portfolio of recipe strategies and production systems.

CHEF 1345 International Cuisine

Prerequisites: CHEF 1301, 1305, 2201 and 2231

Credit: 3 (2 lecture, 4 lab)

The study of classical cooking skills associated with the preparation and service of international and ethnic cuisines. Topics include similarities between food production systems used in the United States and other regions of the world.

CHEF 1364 Practicum (or Field Experience) - Culinary Arts/Chef Training

Prerequisites: CHEF 1301, 1305, 2201 and 2231, Department Approval

Credit: 3 (21 Lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

CHEF 1381 Cooperative Education - Culinary Arts/Chef Training

Prerequisites: CHEF 1301, 1305, 2201 and 2231, Department Approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

CHEF 1391 Special Topics in Culinary Arts/Chef Training

Prerequisites: CHEF 1301, 1305, 2201 and 2231, Department Approval

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge's, 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.

CHEF 2201 Intermediate Food Preparation

Corequisites: CHEF 1301 and 2231

Credit: 2 (1 lecture, 4 lab)

Continuation of previous food preparation course. Topics include the concept of precooked food items, as well as scratch preparation. Covers full range of food preparation techniques.

CHEF 2231 Advanced Food Preparation

Corequisites: CHEF 1301 and 2201

Credit: 2 (1 lecture, 4 lab)

Topics include the concept of pre-cooked food items and the preparation of canapes, hors d'oeuvres, and breakfast items.

CHEF 2302 Saucier

Prerequisites: CHEF 1301, 2201 and 2231

Credit: 3 (2 lecture, 4 lab)

Instruction in the preparation of stocks, soups, classical sauces, contemporary sauces, accompaniments, and the pairing of sauces with a variety of foods.

CHEF 2336 Charcuterie

Prerequisite: CHEF 1310

Credit: 3 (2 lecture, 4 lab)

Advanced concepts in the construction of sausages, pates, and related forced meat preparations.

CHEM 1305 Introductory Chemistry I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

General introduction to fundamental principles of chemistry includes atomic structure, chemical formulas, molecules, reactions, and elementary thermodynamics. This course is intended to be preparatory to CHEM 1411 for science majors who have no prior knowledge of chemistry. Core Curriculum Course. Note: Only one of CHEM 1305, CHEM 1405, and/or CHEM 1411 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

CHEM 1307 Introductory Chemistry II

Prerequisite: CHEM 1305, Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Continuation of CHEM 1305. The organic chemistry of aliphatic and aromatic hydrocarbons, oxygen and nitrogen-containing organic compounds, and biochemistry is introduced. Core Curriculum Course. Note: Only one of CHEM 1307, CHEM 1407, and/or CHEM 1412 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

CHEM 1405 Introductory Chemistry I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 3 lab)

A general introduction to the properties of matter. Topics include atomic structure, energy, chemical bonding, reactions, gas laws and elementary thermodynamics. This is a preparatory course to CHEM 1411 for science majors who have no prior knowledge of chemistry. Core Curriculum Course. Note: Only one of CHEM 1305, CHEM 1405, and/or CHEM 1411 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

CHEM 1407 Introductory Chemistry II

Prerequisite: CHEM 1405; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 1 lab)

Continuation of CHEM 1405. The chemistry of carbon compounds. Topics include aliphatic and aromatic hydrocarbons, alcohols, ethers, aldehydes, ketones, carbolic acids, acid derivatives, amines and biochemistry is introduced. Core Curriculum Course. Note: Only one of CHEM 1307, CHEM 1407, and/or CHEM 1412 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

CHEM 1411 General Chemistry I

Prerequisites: One year of high school Chemistry; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Science and engineering majors study atomic structure, chemical reactions, thermodynamics, electronic configuration, chemical bonding, molecular structure, gases, states of matter, and properties of solutions. Core Curriculum Course. Note: Only one of CHEM 1305, CHEM 1405, and/or CHEM 1411 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

CHEM 1412 General Chemistry II

Prerequisite: CHEM 1411; ; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Continuation of CHEM 1411. Topics include solutions, chemical kinetics, equilibrium and equilibrium phenomena in aqueous solution, acids and bases, pH, thermodynamics, electrochemistry, nuclear chemistry, organic chemistry, and biochemistry. Core Curriculum Course. Note: Only one of CHEM 1307, CHEM 1407, and/or CHEM 1412 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

CHEM 1413 College Chemistry I

Prerequisite: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Nursing and allied health science majors study atomic structure, electron configuration, periodic law, radioactivity and its effects on living organisms, chemical bonding, molecules, gases, solutions, solution concentration, acids and bases, and buffers. Core Curriculum Course.

CHEM 1414 College Chemistry II

Prerequisite: CHEM 1413, Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Continuation of CHEM 1413. Topics include the organic chemistry of hydrocarbons, alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, amines, and amides; biochemistry topics include amino acids and proteins, enzymes, carbohydrates, and lipids. Core Curriculum Course.

CHEM 2423 Organic Chemistry I

Prerequisite: CHEM 1412, Must be placed into college-level reading and be placed into MATH 1314 (or higher) and be placed into college-level writing.

Credit: 4 (3 lecture, 3 lab)

Study of compounds of carbon. Topics include alkanes, alkenes, alkynes, alcohols, alkyl halides, stereochemistry, nucleophilic substitution, reaction mechanisms and synthesis. Core Curriculum Course. Study of the properties and behavior of hydrocarbon compounds and their derivatives. Designed for students in science or pre-professional programs.

CHEM 2425 Organic Chemistry II

Prerequisite: CHEM 2423, Must be placed into college-level reading and be placed into MATH 1314 (or higher) and be placed into college-level writing.

Credit: 4 (3 lecture, 3 lab)

Continuation of CHEM 2423. Topics include aromaticity, benzene and EAS reactions, aldehydes, ketones, carboxyliacids and their derivatives, condensation reactions, amines, phenols, and infrared and NMR spectroscopy. Core Curriculum Course.

CHHS 1311 Commercial Housekeeping/ Maintenance

Credit: 3 (3 lecture)

An introduction to commercial housekeeping and related maintenance and preventative maintenance planning and procedures. Emphasis on work rules, safety rules, and proper care of equipment. An overview of the chemistry of cleaning and proper handling of hazardous chemicals. An introduction to Occupational Safety and Health Administration (OSHA) requirements and designing a communications program. Choosing the proper floor care system and procedures for resilient tile are included.

CHIN 1411 Beginning Chinese I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Introduction to Chinese language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

CHIN 1412 Beginning Chinese II

Prerequisite: Chinese 1411 or satisfactory score on advanced placement examination or at least 2 years of high school Chinese within the last two years. Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Continuation of Chinese 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

CJCR 1304 LE - Probation and Parole

Credit: 3 (3 lecture)

A survey of the structure, organization, and operation of probation and parole services. Emphasis on applicable state statutes and administrative guidelines.

CJLE 1506 Basic Peace Officer I

Credit: 5 (3 lecture, 6 lab)

Introduction to fitness and wellness, history of policing, professionalism and ethics, United States Constitution and Bill of Rights, criminal justice system, Texas Penal Code, Texas Code of Criminal Procedure, civil process, and stress management. This course taken in conjunction with Basic Peace Officer II, III, and IV will satisfy the TCLEOSE-approved Basic Peace Officer Training Academy.

CJLE 1512 Basic Peace Officer II

Credit: 5 (3 lecture, 6 lab)

Basic preparation for a new peace officer. Covers field note taking, report writing, 'use of force' law and concepts, problem solving, multiculturalism, professional policing approaches, patrol procedures, victims of crime, family violence, MHMR, crowd management, HAZMAT, and criminal investigation. This course taken in conjunction with Basic Peace Officer I, III, and IV will satisfy the TCLEOSE-approved Basic Peace Officer Academy.

CJLE 1518 Basic Peace Officer III

Prerequisite: Department Approval

Credit: 5 (3 lecture, 6 lab)

Basic preparation for a new peace officer. Covers laws pertaining to controlled substances, crowd management, personal property, and crime scene investigation. This course taken in conjunction with Basic Peace Officer I, II, and IV will satisfy the TCLEOSE-approved Basic Peace Officer Academy.

Course Descriptions

CJLE 1524 Basic Peace Officer IV

Credit: 5 (3 lecture, 6 lab)

Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer I, II, and III to satisfy the Texas Commission on Law Enforcement (TCLEOSE) approved Basic Peace Officer Training Academy. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A POLICE ACADEMY BY TCLEOSE***

CJLE 2380 Criminal Justice Cooperative Education

Prerequisite: 12 semester hours and Department Approval

Credit: 3 (1 lecture and maximum of 20 hours/week of career-related work experience)

This is a nontraditional course designed to give the student positive work experience combined with an academic study of criminal justice. Students must have a job in the field of criminal justice and be supervised by the co-op coordinator.

CJLE 2384 Cooperative Education - Criminal Justice/Police Science

Prerequisite: CRIJ 2328, Department Approval

Credit: 3 (I lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

CJLE 2420 Texas Peace Officer Procedures

Credit: 4 (3 lecture, 4 lab)

Study of the techniques and procedures used by police officers on patrol. Includes controlled substance identification, handling abnormal persons, traffic collision investigation, note taking and report writing, vehicle operation, traffic direction, crowd control, and jail operations. The student will demonstrate relevant law enforcement techniques and procedures required of Texas peace officers as mandated by the Texas Commission on Law Enforcement Officer Standards and education; identify and explain required forms and documents; and explain the applicable procedures to various situations as they relate to the enforcement of law.

CJLE 2421 Texas Peace Officer Law

Credit: 4 (3 lecture, 4 lab)

Study of laws directly related to police field work. Topics include Texas Transportation Code, intoxicated driver, Texas Penal Code, elements of crimes, Texas Family Code, Texas Alcoholic Beverage Code, and civil liability. The student will identify relevant sections of Texas law as mandated for this course by the Texas Commission on Law Enforcement Officer Standards and Education, discuss the Texas Penal Code, identify violations of the Texas Family Code and the Texas Alcoholic Beverage Code, define and illustrate civil liability, and discuss the transportation code, intoxicated drivers and elements of crimes.

CJLE 2522 Texas Peace Officer Skills

Credit: 5 (3 lecture, 4 lab)

Requires the demonstration and practice of the skills of a police officer including patrol, driving, traffic stop skills, use of force, mechanics of arrest, firearm safety, and emergency medical care. The student will evaluate and explain an appropriate response for a situational scenario, demonstrate the proper and effective application of physical skill while using police equipment, and demonstrate other skills expected of Texas peace officer as mandated for this course by the Texas Commission on Law Enforcement Officer Standards and Education.

CJSA 1308 Criminalistics I

Prerequisite: Must be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

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 evidencefor scientific analysis.

CJSA 1393 Special Topics In Criminal Justice Studies

Prerequisite: Department Approval; Must also be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

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.

CJSA 2323 Criminalistics II

Prerequisite: CJSA 1308; Must also be placed in college level reading and writing or higher. Credit: 3 (2 lecture, 4 lab)

Theory and practice of crime scene investigation. Topics include report writing, blood and other body fluids, document examination, etchings, casts and molds, glass fractures, use of microscope, and firearms identification

CJSA 2332 Criminalistics III

Prerequisite: CJSA 2323; Must also be placed in college level reading and writing or higher. Credit: 3 (2 lecture, 4 lab)

A study of the practical aspects of criminalistics procedures. Topics include crime scene investigation, collecting and preserving evidence, and testifying in court.

CJSA 2364 Practicum-Criminal Justice Studies

Prerequisite/Corequisite: CRIJ 2301, Department Approval

Credit: 3 (21 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. The college with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary. As outlined in the learning plan, the student will master the theory, concepts, and skills involving the tools, materials, equipment, procedures, regulations, laws, and interactions within and among political, economic, environmental, and legal systems associated with the workplace; demonstrate ethical behavior, safety practices, interpersonal and teamwork skills, appropriate verbal andwritten communications in the workplace.

CMSW 1266, 1267, 2266 Practicum (or Field Experience) - Clinical and Medical Social Work

Credit: 2 (14 lab)

Practical general training and experiences in the workplace. The college with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary.

CMSW 1301 Introduction to Social Services

Credit: 3 (3 lecture)

Introduction to concepts of social welfare and social policy. Topics include emphasis on the relationship between social policy and the delivery of social services. Descriptions of present day social welfare programs in terms of the philosophy, legal base, program policy and impact on both the target service group and the larger community of present day social welfare programs.

CMSW 1313 Assessment and Service Delivery

Credit: 3 (3 lecture)

A study of interviewing and assessment instruments and approaches for working with multicultural population. Emphasis on service delivery systems.

CMSW 1353 Family Intervention Strategies

Credit: 3 (3 lecture)

Study of professionally recognized family intervention techniques. Major theories in family intervention are discussed.

CNBT 1191 Special Topics in Construction/Building Technology/ Technician

Credit: 1 (4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

CNBT 1201 Introduction to the Construction Industry

Credit: 2 (1 lecture, 2 lab)

Overview of the construction industry. Includes organizational structures and systems, safety regulations and agencies, construction documents, office and field organizations, and the various construction crafts and trades.

CNBT 1302 Mechanical, Plumbing, and Electrial Systems in Construction

Prerequisite/Corequisite: CNBT 1201

Credit: 3 (3 lecture)

A presentation of the basic mechanical, plumbing, and electrical components in construction and their relationship to the overall building.

CNBT 1311 Construction Methods and Materials I

Prerequisite/Corequisite: CNBT 1201

Credit: 3 (3 lecture)

Introduction to construction materials and methods and their applications.

CNBT 1316 Construction Technology I

Prerequisite/Corequisite: CNBT 1201

Credit: 3 (2 lecture, 2 lab)

Site preparation, foundation, form work, and framing. Includes safety; tools and equipment; basic site preparation; basic foundations and form work; and basic floor, wall, and framing methods and systems.

CNBT 1342 Building Codes and Inspections

Credit: 3 (3 lecture)

Building codes and standards applicable to building construction and inspection processes.

CNBT 1346 Construction Estimating I

Prerequisite: ITSC 1309, or Department Approval

Credit: 3 (2 lecture, 2 lab)

Fundamentals of estimating materials and labor costs in construction.

CNBT 1350 Construction Technology II

Prerequisite: CNBT 1316

Credit: 3 (2 lecture, 2 lab)

Site preparation, foundation, form work, and framing in residential and light construction. Includes safety; tools and equipment; site preparation and layout; concrete; foundations and related form work; and floor, wall, ceiling, and roof framing methods and systems.

CNBT 2335 Computer Aided Construction Scheduling

Prerequisite: Department Approval

Credit: 3 (2 lecture, 2 lab)

Advanced construction scheduling utilizing computer scheduling software to perform various scheduling procedures.

CNBT 2337 Construction EstimAting II

Prerequisite: CNBT 1346

Credit: 3 (2 lecture, 2 lab)

Advanced estimating concepts using computer software programs for construction and crafts.

CNBT 2342 Construction Management I

Credit: 3 (3 lecture)

Human relations management skills in motivation on the job site. Topics include written and oral communications, leadership and motivation, problem solving, and decision making.

CNBT 2344 Construction Management II

Prerequisite: CNBT 2342

Credit: 3 (3 lecture)

A management course in contract documents, safety, planning, scheduling, production control, and law and labor. Topics include contracts, planning, cost and production peripheral documents, and cost and work analysis.

CNBT 2380 Cooperative Education - Construction Engineering Technology/ Technician

Prerequisite: Department Approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

COMM 1307 Introduction to Mass Communication in the Electronic Environment

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Analyzes communication theory and mass media in 21st century society. Surveys history, operation, and structure of the American communication system. Identifies major legal, ethical, and sociocultural issues, studies basic communication theory, and the interrelations between media and the individual, media and society, and media and the future. Examines career potential and job prospects in today's and tomorrow's electronic culture. Core curriculum course.

COMM 1335 Introduction to Radio, Television and Electronic Media

Credit: 3 (3 lecture)

A survey and analysis of history and principles of radio and television broadcasting and production, including programming for varied audience segments and sponsorship. Studies history, technology, regulation, audience, and economics of radio, television, and related electronic media. Studies basic skills and theories of image and sound, equips student to communicate through audio/visual media. Includes public cable, closed-circuit television, production workshops, and individualized instructional modules. Field trip and community media guest lectures included.

COMM 1336 Television Production and Directing I

Prerequisite: COMM 1335

Credit: 3 (2 lecture, 2 lab)

A concentrated course in the theory and application of principles, procedures, and techniques of television production. Uses lecture and laboratory setting with supervision by faculty.

COMM 1337 Television Production and Directing II

Prerequisite: COMM 1335

Credit: 3 (2 lecture, 2 lab)

The preparation and directing of television programs with emphasis on the creative application of broadcast principles and informational techniques. Uses lecture and laboratory setting with supervision by faculty.

Course Descriptions

COMM 2129 Communication Internship I

Prerequisites: Department Approval. 15 hours/week applied work in a position related to career goal and degree plan in Communication

Credit: 1 (1 lecture, 1 lab)

Evaluation of skills/competency provided by both sponsoring company/organization and supervising faculty. Students may repeat course for maximum of four credit hours. Students may register for two sections per semester.

COMM 2302 Principles of Journalism I

Prerequisites: Must be placed at college level reading and writing skills.

Credit: 3 (3 lecture)

Exploration of ethical and legal boundaries as well as issues and problems facing today's journalist.

COMM 2305 Production Editing and Layout

Credit: 3 (3 lecture)

Trains students in basic copy editing for publication and in handling production copy from manuscript to finished publication, including photography choice, sizing, cropping and/or handling of various types of graphic illustrations. Covers publication layout (rough, finished), type choice, color, and black/white rendering.

COMM 2309 Editorial and Feature Writing I

Credit: 3 (2 lecture, 2 lab)

Trains students in writing newspaper and magazine feature articles and editorials. Examines topic selection and location of background source material, plus market and reader analysis. Discusses free-lance market and adapting style to different audiences and publications. (formerly COMM 2310).

COMM 2311 Newsgathering and Editing I

Prerequisite: ENGL 1301

Credit: 3 (2 lecture, 2 lab)

Provides training in news gathering, news writing, and editing. Develops skills in headline writing, layout, and newspaper production with experience on student newspaper or area print publications. Field trips and careers are explored.

COMM 2315 Newsgathering and Editing II

Prerequisite: ENGL 1301, COMM 2311

Credit: 3 (2 lecture, 2 lab)

Continuation of COMM 2311.

COMM 2327 Advertising

Credit: 3 (3 lecture)

Enables student to conceive ideas, tailor and lay out advertisements geared for TV commercials, radio, magazines, and newspapers. Assignments are based on goals, objectives, product/service fact sheets, and marketing considerations. Course integrates vital ingredients that enhance or impede advertising outcomes: product research, consumer behavior, semantics, social science knowledge, copy research and copywriting, visualization, media strategy, advertising agency knowledge, handling of client relations, and preparation of a portfolio. Field trip.

COMM 2330 Public Relations

Credit: 3 (3 lecture)

Studies principles and practices of public relations. Provides hands-on techniques to influence positive public opinion within and outside of companies. Requires creation of feature and news articles, press releases, press kit, brochure, and brief work plan utilizing the four-step planning process for resolving PR problems. Trains students to write good copy, construct PR goals and objectives, conduct practical research to determine public attitudes and opinion, arrange and conduct press conferences, and develop positive media relationships. (formerly COMM 2328).

COMM 2331 Radio and Television Announcing

Credit: 3 (2 lecture, 2 lab)

The development of skills required for efficient announcing, acting, newscasting, and other speaking before microphone and camera. Students write and present radio, TV, audiovisual announcements and assignments. Utilize lectures, lab setting with supervision by faculty.

COMM 2332 Broadcast Journalism I

Prerequisite: Department Approval

Credit: 3 (2 lecture, 2 lab)

Studies fundamentals of broadcast news. Covers broadcast writing, performing, and standard broadcasting formats. Uses lecture and laboratory setting with supervision by both sponsoring commercial studio and faculty.

COMM 2339 Script Writing: Radio, Television, Videotape, Film

Credit: 3 (3 lecture)

Writing for production of programs and various documentaries, training materials slide/tape sets, and other situations requiring a production script.

COSC 1436 Programming Fundamentals I

Prerequisite: Must be at college-level skills in reading and writing, place into MATH 1314 College Algebra or higher, and have had high school computer literacy or equivalent.

Credit: 4 (3 lecture, 3 lab)

Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy.

COSC 1437 Programming Fundamentals II

Prerequisite: COSC 1436 or ITSE 1402, and MATH 2412 and ENGL 1301.

Credit: 4 (3 lecture, 3 lab)

Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering.

COSC 2325 Computer Organization and Machine Language

Prerequisite: COSC 1436, MATH 1314 and ENGL 1301.

Credit: 3 (2 lecture, 2 lab)

Basic computer organization; machine cycle, digital representation of data and instructions; assembly language programming, assembler, loader, macros, subroutines, and program linkages.

COSC 2436 Programming Fundamentals III

Prerequisites: Math 2413 and COSC 1437

Credit: 4 (3 lecture, 3 lab)

Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis.

CPMT 1303 Introduction to Computer Technology

Credit: 3 (2 lecture, 4 lab)

A fundamental computer course that provides in-depth explanation of the procedures to utilize hardware and software. Emphasis on terminology, acronyms, and hands-on activities.

CPMT 2389 Internship - Computer Installation and Repair Technology/ Technician

Prerequisite: Department Approval

Credit: 3 (1 lecture, 17 lab)

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.

CPMT 1407 Electronic and Computer Skills

Prerequisites: CETT 1409 or Department Approval

Credit: 4 (3 lecture, 2 lab)

The study of modern electronic construction techniques including the application of the most common hand tools used in disassembly, repair, and reassembly of electronics and computer components.

CPMT 1411 Introduction to Computer Maintenance

Credit: 4 (3 lecture, 3 lab)

Identify modules that make up a computer system and its operation; identify each type of computer bus structure; and assemble/setup microcomputer systems, accessory boards, and install/connect associated peripherals.

CPMT 1449 Computer Networking Technology

Prerequisite/Corequisite: CPMT 1411 or Department Approval

Credit: 4 (3 lecture, 3 lab)

A course in computer networks with focus on networking fundamentals, terminology, hardware, software, and network architecture. A study of local/wide area networking concepts and networking installations and operations.

CPMT 1491 Special Topics in Computer Maintenance Technology/Technician

Prerequisite: Department Approval

Credit: 4 (3 lecture, 2 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

CPMT 2350 Industry Certification Preparation

Prerequisite: Department Approval

Credit: 3 (2 Lecture, 4 Lab)

An overview of the objectives for industry specific certification exam(s).

CPMT 2433 Computer Integration

Prerequisite: CPMT 1411 or Department Approval

Credit: 4 (3 lecture, 3 lab)

An advanced course in integration of hardware, software, and applications. Customization of computer systems for specific applications in engineering, multi-media, or data acquisition.

CPMT 2434 Network Security

Prerequisite: CPMT 2449 or Department Approval

Credit: 4 (3 Lecture, 3 Lab)

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

CPMT 2445 Computer System Troubleshooting

Prerequisite: Department Approval

Credit: 4 (3 lecture, 3 lab)

Principles and practices involved in computer system troubleshooting techniques and repair procedures including advanced diagnostic test programs and the use of specialized test equipment.

CPMT 2449 Advanced Computer Networking Technology

Prerequisite/Corequisite: CPMT 1449 or Department Approval

Credit: 4 (3 lecture, 3 lab)

An in-depth study of network technology with emphasis on network operating systems, network connectivity, hardware, and software. Mastery of implementation, troubleshooting, and maintenance of LAN and/or WAN network environments.

CRIJ 1301 Introduction to Criminal Justice

Prerequisite: Must be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

History, philosophy, and ethical considerations of criminal justice; the nature and impact of crime; and an overview of the criminal justice system, including law enforcement and court procedures. Designated as Criminal Justice Transfer Curriculum.

CRIJ 1306 The Courts and Criminal Procedure

Prerequisite: Must be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

Study of the judiciary in the American criminal justice system and the adjudication processes and procedures. Designated as Criminal Justice Transfer Curriculum.

CRIJ 1307 Crime in America

Prerequisite: Must be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

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

Prerequisite: Must be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

Study of criminal law, its philosophical and historical development, major definitions and concepts, classifications and elements of crime, penalties using Texas statutes as illustrations, and criminal responsibility. Designated as Criminal Justice Transfer Curriculum

CRIJ 1313 Juvenile Justice Systems

Prerequisite: Must be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

A study of the juvenile justice process to include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency.

CRIJ 2301 Community Resources in Corrections

Prerequisite: Must be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

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

Prerequisite: Must be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

Corrections in the criminal justice system; organization of correctional systems; correctional role; institutional operations; alternatives to institutionalization; treatment and rehabilitation; current and future issues. Designated as Criminal Justice Transfer Curriculum.

CRIJ 2314 Criminal Investigation

Prerequisite: Must be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation.

Course Descriptions

CRIJ 2323 Legal Aspects of Law Enforcement

Prerequisite/Corequisite: CRIJ 1301; Must also be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

Police authority; responsibilities; constitutional constraints; laws of arrest, search, and seizure; police liability. Designated as Criminal Justice Transfer Curriculum

CRIJ 2328 Police Systems and Practices

Prerequisite: Must be placed in college level reading and writing or higher.

Credit: 3 (3 lecture)

The police profession; organization of law enforcement systems; the police role; police discretion; ethics; police-community interaction; current and future issues. Designated as Criminal Justice Transfer Curriculum.

CRPT 1311 Conventional Roof Systems

Prerequisite/Corequisite: CRPT 1329

Credit: 3 (2 lecture, 3 lab)

Principles of design and construction of a conventional roof system incorporating gable, hip, and intersections. Emphasis given to safe work practices and the selection, use, and maintenance of tools and equipment

CRPT 1315 Conventional Wall Systems

Prerequisite/Corequisite: CRPT 1329

Credit: 3 (2 lecture, 3 lab)

Conventional wall systems with emphasis on wood frame construction. Includes identification of components; construction of wall systems; safe work practices; and the selection, use, and maintenance of tools and equipment.

CRPT 1325 Forms and Foundations I

Prerequisite/Corequisite: CRPT 1329 or Department Approval

Credit: 3 (2 lecture, 3 lab)

Construction of basic form and foundation systems including related safety, tools, equipment, and building layout. Emphasis on safe work practices and the selection, use, and maintenance of tools and equipment.

CRPT 1329 Introduction to Carpentry

Credit: 3 (2 lecture, 3 lab)

An introduction to the carpentry trade including safety, tools, equipment, terminology, and methods.

CRPT 1341 Conventional Exterior Finish Systems

Prerequisite/Corequisite: CRPT 1329

Credit: 3 (2 lecture, 3 lab)

Installation of exterior finish systems and components including the placement and installation of cornice, windows, doors, siding, and flashing. Emphasis on safe work practices and the selection, use, and maintenance of tools and equipment.

CRPT 1345 Conventional Interior Finish Systems

Prerequisite/Corequisite: CRPT 1329

Credit: 3 (2 lecture, 3 lab)

Installation of interior finish systems and components including the placement and installation of doors, trim, floor, wall, and ceiling finishes. Emphasis on safe work practices and the selection, use, and maintenance of tools and equipment.

CRPT 1380 Cooperative Education - Carpentry/Carpenter

Prerequisite: Department Approval

Credit: 3 (1 lecture, 14 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

CRPT 2335 Metal Wall System

Prerequisite/Corequisite: CRPT 1329

Credit: 3 (2 lecture, 3 lab)

Instruction in metal wall system construction. Topics include walls, partitions, framing materials, and fastening systems with emphasis on safe work practices and the selection, use, and maintenance of tools and equipment.

CSIR 1355 Industry Certifications

Prerequisites/Corequisites: ELPT 1221, ELPT 1329

Credit: 3 (2 lecture, 3 lab)

Preparation for the certifications required by industry. This course is designed to familiarize the student with modern wiring technology concepts, components and applications. The advantages, characteristics, operation, and configurations of fiber optics and network wiring systems are studied. Topics include light sources, light transmission, fiber optics principles and terminology, shielded cables and networking system components. The proper use of testing equipment and accepted termination, installation, diagnostic, troubleshooting procedures and safety regulations are emphasized.

CSIR 1391 Special Topics in Communications System Installer and Repairer

Prerequisite: CSIR 1355

Credit: 3 (2 lecture, 3 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

CSME 1365 Practicum Cosmetology/ Cosmetologist

Credit: 3 (21 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

CSME 1405 Fundamentals of Cosmetology

Credit: 4 (2 lecture, 8 lab)

A course in the basic fundamentals of cosmetology. Topics include service preparation, manicure, facial, chemical services, shampoo, haircut, wet styling, and comb out.

CSME 1410 Introduction to Haircutting and Related Theory

Credit: 4 (2 lecture, 8 lab)

Introduction to the theory and practice of hair cutting. Topics include terminology, implements, sectioning and finishing techniques.

CSME 1420 Orientation to Facial Specialist

Corequisites: CSME 1421, CSME 1447

Credit: 4 (2 lecture, 8 lab)

An overview of the skills and knowledge necessary for the field of facials and skin care.

CSME 1421 Principles of Facial/Esthetic Technology I

Corequisites: CSME 1420, CSME 1447

Credit: 4 (2 lecture, 6 lab)

An introduction to the principles of facial and esthetic technology. Topics include anatomy, physiology, theory, and related skills of facial and esthetic technology.

CSME 1447 Principles of Skin Care/facials and related Theory

Corequisites: CSME 1420, CSME 1421

Credit: 4 (2 lecture, 8 lab)

An in-depth coverage of the theory and practice of skin care, facials, and cosmetics.

CSME 1453 Chemical Reformation

Credit: 4 (2 lecture, 8 lab)

Presentation of the theory and practice of chemical reformation, including terminology, application, and workplace competencies.

CSME 1491 Special Topics in Cosmetology Client Relations

Prerequisite: Department Approval

Credit: 4 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

CSME 1534 Cosmetology Instructor I
Corequisite: CSME 1535, CSME 2514
Credit: 5 (3 lecture, 5 lab)
The fundamentals of instruction of cosmetology students.

CSME 1535 Orientation to the Instruction of Cosmetology
Prerequisites: A current Texas Cosmetology Operator License. Must have 3 years recent verifiable work experience. Must obtain department chair approval.
Corequisites: CSME 1534, CSME 2514
Credit: 5 (3 lecture, 5 lab)
An overview of the skills and knowledge necessary for the instruction of cosmetology students.

CSME 1545 Principles of Facial/Esthetic Technology II
Prerequisite: CSME 1447
Corequisites: CSME 2531, CSME 1491
Credit: 5 (3 lecture, 6 lab)
A continuation of the concepts and principles in skin care and other related technologies. Topics include advanced instruction in anatomy, physiology, theory, and the related skills of facial and esthetic technology.

CSME 1551 Artistry of Hair, Theory and Practice
Credit: 5 (3 lecture, 7 lab)
Instruction in the artistry of hair design. Topics include theory, techniques, and application of hair design.

CSME 2343 Salon Development
Credit: 3 (2 lecture, 4 lab)
Exploration of salon development. Topics include professional ethics and goals, salon operation, and record keeping.

CSME 2401 Principles of Hair Coloring and Related Theory
Credit: 4 (2 lecture, 8 lab)
Presentation of the theory, practice, and chemistry of hair color. Topics include terminology, application, and workplace competencies related to hair color.

CSME 2410 Advanced Haircutting and Related Theory
Credit: 3 (2 lecture, 8 lab)
Advanced concepts and practice of haircutting. Topics include haircuts utilizing scissors, razor, and/or clippers.

CSME 2514 Cosmetology Instructor II
Corequisites: CSME 1534, CSME 1535
Credit: 5 (3 lecture, 5 lab)
A continuation of the fundamentals of instructing cosmetology students.

CSME 2515 Cosmetology Instructor III
Prerequisites: CSME 1534, CSME 1535, CSME 2514
Corequisites: CSME 2544, CSME 2545
Credit: 5 (3 lecture, 5 lab)
Presentation of lesson plan assignments and evaluation techniques.

CSME 2531 Principles of Facial/Esthetic Technology III
Prerequisite: CSME 1447
Corequisites: CSME 1545, CSME 1491
Credit: 5 (3 lecture, 6 lab)
Advanced concepts and principles of skin care and other related technologies.

CSME 2541 Preparation for the State Licensing Examination
Prerequisite: Department Approval
Credit: 5 (3 lecture, 6 lab)
Preparation for the state licensing examination.

CSME 2544 Cosmetology Instructor IV
Prerequisites: CSME 1534, CSME 1535, CSME 2514
Corequisites: CSME 2515, CSME 2545
Credit: 5 (3 lecture, 5 lab)
Advanced concepts of instruction in a cosmetology program. Topics include demonstration, development, and implementation of advanced evaluation and assessment techniques.

CSME 2545 Instructional Theory and Clinic Operation
Prerequisites: CSME 1534, CSME 1535, CSME 2514
Corequisites: CSME 2515, CSME 2544
Credit: 5 (3 lecture, 5 lab)
An overview of the objectives required by the Texas Department of Licensing and Regulation Instructor Examination.

CTEC 1213 Introduction to Chemical Technology
Credit: 2 (1 lecture, 2 lab)
Introduction to the educational and professional requirements of the chemical technician. Topics include safety, industrial site visits, chemical literature, and computer applications.

CTEC 1345 Chemical Laboratory Safety
Credit: 3 (3 lecture)
Study of the safety problems encountered in the operation of a chemical laboratory. Topics include chemical and safety regulations, chemical hygiene plans, the Lab Standard, and safe laboratory procedures.

CTEC 1349 Environmental Chemistry
Prerequisite: SCIT 1414 or CHEM 1411 or Department Approval
Credit: 3 (2 lecture, 3 lab)
Instruction in laboratory operations for the analysis of environmental contaminants according to current federal, state, and local standards.

CTEC 1391 Special Topics in Chemical Technology/Technician
Credit: 3 (3 lecture)
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.

CTEC 1401 Applied Petrochemical Technology
Prerequisite: College-Level Algebra or Department Approval
Credit: 4 (3 lecture, 3 lab)
Instruction in the basic principles of physics and their application to process facilities. Topics include units of measurement; gas laws; thermodynamics; temperature; pressure; and the properties of solids, liquids, and gases and how these properties relate to the operation of process equipment.

CTEC 1491 Special Topics in Chemical Technology/Technician
Credit: 4 (3 lecture, 3 lab)
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.

CTEC 1541 Applied Instrumental Analysis I
Prerequisite: SCIT 1543, or Department Approval
Credit: 5 (3 lecture, 6 lab)
Overview of instrumental chemical analysis. Topics include chromatography, spectroscopy, and/or electroanalytical chemistry.

CTEC 2333 Comprehensive Studies in Chemical Technology
Prerequisite: Department Approval
Credit: 3 (1 lecture, 6 lab)
Course requiring a special laboratory research project.

Course Descriptions

CTEC 2381 Cooperative Education - Chemical Technology/Technician

Prerequisite: SCIT 1414 or Department Approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

CTEC 2386 Internship-Chemical Technology/Technician

Prerequisite: Department Approval

Credit: 3 (18 lab)

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.

CTEC 2441 Polymers I

Prerequisite: SCIT 2401 or Concurrent Enrollment or Department Approval

Credit: 4 (3 lecture, 2 lab)

Study of the concepts of polymer science. Topics include classification, structure, properties, synthesis, characterization, and industrial application.

CTEC 2443 Polymers II

Prerequisite: CTEC 2441 or Department Approval

Credit: 4 (3 lecture, 2 lab)

Continuation of Polymers I with emphasis on polymeric materials.

CTEC 2445 Unit Operations

Prerequisite: CTEC 1541 or Department Approval

Credit: 4 (3 lecture, 2 lab)

Instruction in the principles of chemical engineering and process equipment. Emphasis on scale-up from laboratory bench to pilot plant.

CTEC 2531 Applied Instrumental Analysis II

Prerequisite: CTEC 1541 or Department Approval

Credit: 5 (3 lecture, 6 lab)

Study of advanced topics in instrumental analysis. Topics include atomic absorption, inductively coupled plasma, nuclear magnetic resonance, gas chromatography/mass spectrometry, liquid chromatography, and infrared spectroscopy.

CTMT 2336 Computer Tomography Equipment and Methodology

Prerequisites: Registered and in good standing with ARRT or NMTCB

Corequisite: RADR 2340

Credit: 3 (3 lecture)

Skill development in the operation of computed tomographic equipment, focusing on routine protocols, image quality, quality assurance and radiation protection.

CTMT 2460 Clinical - Radiologic Technology/Science - Radiographer

Prerequisites: Registered and in good standing with ARRT or NMTCB

Corequisites: RADR 2340, CTMT 2336, CTMT 2461

Credit: 4 (12 external lab)

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.

CTMT 2461 Clinical - Radiologic Technology/Science - Radiographer

Prerequisites: Registered and in good standing with ARRT or NMTCB

Corequisites: RADR 2340, CTMT 2336, CTMT 2460

Credit: 4 (12 external lab)

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.

CVTT 1110 Cardiac Catheterization I

Prerequisite: CVTT 1201

Credit: 1 (1 lecture)

Basic life support, cardiac pharmacology, and emergency procedures as they relate to the cath lab experience.

CVTT 1153 Catheterization Lab Fundamentals II

Prerequisite: CVTT 1313

Credit: 1 (1 lecture)

A continuation of Catheterization Lab Fundamentals I with emphasis on X-ray technology and interventional procedures in the cardiac cath lab. Focus on the beginning cath lab clinical experience.

CVTT 1201 Introduction to Cardiovascular Technology

Prerequisite: Admission to the Program

Credit: 2 (2 lecture)

Introduction to the field of invasive cardiovascular technology and the role of the cardiovascular technologist. Topics include medical terminology, ethical/legal aspects, and communication skills.

CVTT 1260 Clinical - Cardiovascular Technology/Technologist

Prerequisite: CVTT 1371

Credit: 2 (12 lab)

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.

CVTT 1304 Cardiovascular Anatomy and Physiology

Prerequisite: Admission to the Program

Credit: 3 (2 lecture, 2 lab)

A study of the anatomy, physiology, and structural relationships of the human heart and vascular system. Focuses on cardiac anatomy, electrocardiology, cardiac hemodynamics, and the innervation of the heart

CVTT 1307 Cardiovascular Instrumentation

Prerequisite: CVTT 1201

Credit: 3 (3 lecture)

Basic principles, theory, and operation of cardiovascular equipment, electronics, and instrumentation.

CVTT 1313 Catheterization Lab Fundamentals I

Prerequisite: CVTT 1371

Credit: 3 (2 lecture, 2 lab)

Introduction to the diagnostic procedures used in the cath lab. Prior didactic instruction in cardiac physiology and medical instrumentation applied to cath lab procedures including patient preparation and monitoring, angiographic equipment set-up, and the coronary angiography procedure itself.

CVTT 1340 Cardiovascular Pathophysiology

Prerequisite: CVTT 1304

Continuation of CVTT 1304: Cardiovascular Anatomy and Physiology. Methods of hemodynamic data collection and implications in relation to cardiac diseases.

CVTT 1350 Cardiac Catheterization II

Prerequisite: CVTT 1110

Credit: 3 (3 lecture)

A continuation of Cardiac Catheterization I. An intensive study of advanced cardiovascular diagnostic and therapeutic procedures including percutaneous transluminal coronary angioplasty and electrophysiology studies.

CVTT 1371 Patient Care Procedures in the Cardiac Cath Lab

Prerequisite: Admission to the Program

Credit: 3 (2 lecture, 4 lab)

Introduction to basic procedures in caring for the patient in the cardiac cath lab. Topics include monitoring, vital signs, patient assessment, special consideration for the cardiac patient both physical and psychological, pre-and post-care routines, aseptic techniques and maintaining a sterile environment; surgical scrubbing, gowning and gloving procedures.

CVTT 1391 Special Topics in Cardiovascular Technology/Technician

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

CVTT 2330 Advanced Cardiovascular Instrumentation

Prerequisite: CVTT 1307

Credit: 3 (2 lecture, 4 lab)

Continuation of CVTT 1307: Cardiovascular Instrumentation. Theory, calibration, operation, and clinical application of cardiovascular diagnostic instrumentation and methods of hemodynamic data collection, calculation, analysis, and implications.

CVTT 2350 Cardiovascular Professional Transition

Prerequisite: CVTT 1391

Credit: 3 (3 lecture)

Exploration of professional opportunities outside the cardiovascular lab. Includes non-invasive cardiology, cardiac surgical procedures, hospital administration, and professional transition.

CVTT 2361 Clinical- Cardiovascular Technology/Technologist

Prerequisite: CVTT 1260

Credit: 3 (16 lab)

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.

CVTT 2362 Clinical- Cardiovascular Technology/Technologist

Prerequisite: CVTT 2361

Credit: 3 (16 lab)

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.

CVTT 2462 Clinical- Cardiovascular Technology/Technologist

Prerequisite: CVTT 2362

Credit: 4 (16 lab)

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.

CVTT 2470 Registerd Cardiovascular Invasive Specialist (RCIS) Exam

Prerequisite: All CVTT Courses

Credit: 4 (2 lecture, 6 lab)

This is a capstone course to prepare the student for the Registered Cardiovascular Invasive Specialist Exam. Topics will include cardiovascular structure, function, pathophysiology, electrophysiology of the cardiovascular system, diagnostic and interventional techniques and devices, cardiovascular pharmacology, equipment, patient care and assessment.

DAAC 1304 Pharmacology of Addiction

Credit: 3 (3 lecture)

Psychological, physiological, and sociological effects of mood altering substances and behaviors and their implications for the addiction process are discussed. Emphasis is placed on pharmacological effects of tolerance, dependency/withdrawal, cross addiction, and drug interaction.

DAAC 1311 Counseling Theories

Credit: 3 (3 lecture)

Identify major counseling theories; define and explain techniques relevant to the various theories; and discuss major approaches to treatment.

DAAC 1319 Introduction to Alcohol and Other Drug Addictions

Credit: 3 (3 lecture)

Causes and consequences of addiction as they relate to the individual, family, community, and society. Overview of alternatives regarding prevention, intervention, and treatment. Includes explanation of competencies and requirements for licensure in Texas. Also covers addiction issues related to diverse populations.

DAAC 1391 Special Topics in Alcohol/ Drug Abuse Counseling

Credit: 3 (varies with course)

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

DAAC 1417 Basic Counseling Skills

Credit: 4 (2 lecture, 8 lab)

Facilitate development of the basic counseling skills necessary to develop an effective helping relationship with clients. Includes the utilization of special skills to assist in achieving objectives through exploration of problems, examiniation of attitudes and feelings, consideration of alternative solutions, and decision making.

DAAC 2267 Practicum (or Field Experience) Alcohol/Drug Abuse Counseling

Prerequisite: Department Approval

Credit: 2 (19 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

DAAC 2343 Current Issues

Credit: 3 (3 lecture)

Current issues in addiction counseling. Includes special populations, dual diagnosis, ethics, gambling, and infectious diseases associated with addiction counseling.

DAAC 2354 Dynamics of Group Counseling

Prerequisite: DAAC 1417

Credit: 3 (3 lecture)

Exploration of group counseling skills, techniques,and stages of group development.

DANC 1112 Dance Practicum I

Prerequisites: Departmental approval required.

Credit: 1 (0 lecture, 4 lab)

Skill development in staged performances of dance genres. Emphasis on style, technique, and performance.

DANC 1113 Dance Practicum II

Prerequisites: Departmental approval required.

Credit: 1 (0 lecture, 4 lab)

Skill development in staged performances of dance genres.Emphasis on style, technique, and performance.

Course Descriptions

DANC 1210 Tap I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 2 (1 lecture, 2 lab)

Basic skills and vocabulary of tap dance. Core Curriculum Course.

DANC 1211 Tap II

Prerequisite: DANC 1210; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 2 (1 lecture, 2 lab)

Continuation of Tap I.

DANC 1301 Dance Composition

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

This course explores expansion of movement vocabulary through improvisation and compositional techniques. Students will create and perform group and solo movement studies. Core Curriculum Course.

DANC 1305 World Dance I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

Students will learn cultural dances of five major world civilizations, with emphasis on rhythmic awareness and movement development. The cultural origins, significance, and motivation, as well as the use of costumes and music, will be explored in lecture and research through live performances, guest artists, and the use of multi-media sources. Instruction will include experiential and written assignments, and students will be expected to participate in an end-of-semester concert. Each time the course is taught, different cultures are examined. Core Curriculum Course. (Formerly DANC 1381)

DANC 1306 World Dance II

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

Continuation of World Dance I. Core Curriculum Course. (Formerly DANC 1382)

DANC 1341 Ballet I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

A beginning-level course which introduces the student to the concepts of classical ballet, through practice of basic bare and centre skills, the body positions, and movement combinations. The history of the development of ballet is presented through lecture and multimedia, and esthetic principles of dance are explored through lecture and concert attendance. Core Curriculum Course.

DANC 1342 Ballet II

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

Continuation of DANC 1341.

DANC 1345 Modern Dance I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

An beginning-level course which introduces the student to the concepts of modern dance. The course includes floor work, basic axial center technique, locomotor movements, and improvisation. The history of modern dance is presented through lecture and multimedia, and esthetic principles of dance are explored through lecture and concert attendance. Core Curriculum Course.

DANC 1346 Modern Dance II

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

Continuation of DANC 1345.

DANC 1347 Jazz Dance I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

A beginning level course which introduces the student to the basic skills of jazz dance, with an emphasis on technique development, rhythmic awareness, and various jazz movement styles. The history of jazz dance is presented through lecture and multimedia, and esthetic principles of dance are explored through lecture and concert attendance. Core Curriculum Course.

DANC 1348 Jazz Dance II

Prerequisite: DANC 1347, Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

Continuation of Jazz Dance I.

DANC 1349 Ballet Folklorico I

Prerequisites: Must be placed into GUST 0342 (or Higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

Instruction and participation in folk dance technique. Core Curriculum Course.

DANC 1377 African-American Dance I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

A beginning level course which introduces the student to movement styles of various African-American dance artists. Primary movement vocabulary incorporates techniques of stretching and strengthening, as well as movement progressions. Through lecture and multimedia, the student will explore the origins of African dance, and its fusion into the dance of the United States. Core Curriculum Course.

DANC 1378 African-American Dance II

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

A continuation of DANC 1377.

DANC 2112 Dance Practicum III

Prerequisites: Departmental approval required.

Credit: 1 (0 lecture, 4 lab)

Skill development in staged performances of dance genres. Emphasis on style, technique, and performance.

DANC 2113 Dance Practicum IV

Prerequisites: Departmental approval required.

Credit: 1 (0 lecture, 4 lab)

Skill development in staged performances of dance genres. Emphasis on style, technique, and performance.

DANC 2210 Dance Repertory I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 2 (2 lecture)

Dance technique and repertory of various styles taught by guest artist(s). Core Curriculum Course. (Formerly DANC 1213)

DANC 2301 Problems in Dance

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

A course designed to meet the individual needs of students who otherwise have exhibited a particular talent or skill in dance which is not addressed in any existing dance course. Must have coordinator's approval after recommendation by the instructor. May be repeated.

DANC 2303 Dance Appreciation

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

Introduction to dance designed for the general student. This course explores what is dance, who makes it, and why it is made. Through lecture, multimedia, and live performances, students are presented with examples from many world cultures. Core Curriculum Course.

DANC 2325 Anatomy and Kinesiology

Prerequisite: Program approval; Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

The study of human movement designed specifically to relate to dance. The course will cover the skeletal, nervous, and muscular systems. Studies include movement analysis, therapeutic exercises, and prevention of dance injuries.

DANC 2341 Ballet III

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

A continuation of DANC 1342 with an emphasis on developing strength, control, flexibility and line to develop a more comprehensive classical ballet movement vocabulary. Through lecture and multimedia, the student will trace the development of ballet in the United States. Core Curriculum Course.

DANC 2342 Ballet IV

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

Continuation of DANC 2341.

DANC 2345 Modern Dance III

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

A continuation of DANC 1346 with an emphasis on developing strength, control, flexibility, and improvisational skills to develop a more comprehensive modern dance vocabulary. Through lecture and multimedia, the student will trace the recent developments in modern dance performance styles. Core Curriculum Course.

DANC 2346 Modern IV

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

Continuation of DANC 2345.

DANC 2347 Jazz Dance III

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

A continuation of DANC 1348.

DANC 2351 Performance III

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

This course offers students the opportunity to engage in rehearsal and performance of dance works in the making under the direction of faculty or guest choreographers. May be repeated with coordinator's approval.

DANC 2352 Performance IV

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

Continuation of DANC 2351

DANC 2389 Academic Cooperative in Dance

Prerequisites: Must be placed into college-level reading and college-level writing.
Credit: 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in dance. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of dance

DEMR 1301 Shop Safety and Procedures

Credit: 3 (2 lecture, 4 lab)

A study of shop safety, rules, basic shop tools, and test equipment.

DEMR 1305 Basic Electrical Systems

Prerequisite: DEMR 1301

Credit: 3 (2 lecture,4 lab)

Basic principles of electrical systems of diesel powered equipment with emphasis on starters, alternators, and batteries.

DEMR 1306 Diesel Engine I

Prerequisite/Corequisite: DEMR 1301

Credit: 3 (2 lecture,4 lab)

An introduction to the basic principles of diesel engines and systems.

DEMR 1310 Diesel Engine Testing and Repair I

Prerequisite/Corequisite: DEMR 1313

Credit: 3 (2 lecture, 4 lab)

An introduction to testing and repairing diesel engines including related systems specialized tools.

DEMR 1313 Fuel Systems

Prerequisite/Corequisite: DEMR 1316

Credit: 3 (2 lecture, 4 lab)

In-depth coverage of fuel injector pumps and injection systems.

DEMR 1316 Basic Hydraulics

Prerequisite/Corequisite: DEMR 1301

Credit: 3 (1 lecture, 4 lab)

Fundamentals of hydraulics including components and related systems.

DEMR 1329 Preventative Maintenance

Prerequisites: DEMR 1301

Credit: 3 (2 lecture,2 lab)

An introductory course designed to provide the student with basic knowledge of proper servicing practices. Content includes record keeping and condition of major systems.

DEMR 1342 Power Train Applications I

Prerequisite/Corequisite: DEMR 1349

Credit: 3 (2 lecture,4 lab)

In-depth coverage of the mechanics and theory of power trains. Emphasis on disassembly, inspection, and repair of power train components.

DEMR 1349 Diesel Engine II

Prerequisite/Corequisite: DEMR 2348

Credit: 3 (2 lecture, 4 lab)

An in-depth coverage of disassembly, repair, identification, evaluation, and reassembly of diesel engines.

DEMR 1381 Cooperative Education-Diesel Engine Mechanic and Repairer

Prerequisite/Corequisite: DEMR 2312 and Department Approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

DEMR 2312 Diesel Engine Testing and Repair II

Prerequisite/Corequisite: DEMR 1342

Credit: 3 (2 lecture, 4 lab)

Coverage of testing and repairing diesel engines including related systems specialized tools.

DEMR 2334 Advanced Diesel Tune-Up and Troubleshooting

Prerequisite/Corequisite: DEMR 2312

Credit: 3 (2 lecture, 4 lab)

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.

Course Descriptions

DEMR 2348 Failure Analysis

Prerequisite/Corequisite: DEMR 1310

Credit: 3 (2 lecture, 3 lab)

An advanced course designed for analysis of typical part failures on equipment.

DFTG 1302 Introduction to Technical Animation and Rendering

Prerequisite: DFTG 2319

Credit: 3 (2 lecture, 4 lab)

Basic terminology and concepts associated with the development of computer modules used in technical computer animation. Topics include basic animation principles, model creation, light sources, camera positioning, rendering, importing and modification of external files.

DFTG 1305 Technical Drafting

Credit: 3 (2 lecture, 4 lab)

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 1309 Basic Computer-Aided Drafting

Corequisite: DFTG 1305 or Department Approval

Credit: 3 (2 lecture, 4 lab)

An introduction to computer-aided drafting. Emphasis is placed on setup; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects, adding text and dimensions, using layers, coordinate systems and plot/print to scale.

DFTG 1310 Specialized Basic Computer Aided Drafting (CAD)

Prerequisite: DFTG 1309

Credit: 3 (2 lec, 4 lab)

A supplemental course to Basic Computer Aided Drafting using an alternative computer-aided drafting (CAD) software to create detail and working drawings.

DFTG 1315 Architectural Blueprint Reading

Credit : 3 (3 lecture)

The fundamentals of blueprint reading for the construction industry will be examined.

DFTG 1317 Architectural Drafting-Residential

Prerequisite: DFTG 1305

Credit: 3 (2 lecture, 4 lab)

Architectural drafting procedures, practices, and symbols, including preparation of detailed working drawings for residential structure with emphasis on light frame construction methods.

DFTG 1329 ElectroMechanical Drafting

Prerequisite: DFTG 1305

Credit: 3 (2 lecture, 4 lab)

A basic course including layout and design of electro-mechanical equipment from engineering notes and sketches. Emphasis on drawing of electronics enclosures, interior hardware, exterior enclosure, detailed and assembly drawings with a parts list, and flat-pattern layouts.

DFTG 1333 Mechanical Drafting

Prerequisite: DFTG 1305

Credit: 3 (2 lecture, 4 lab)

Detail drawings with proper dimensioning and tolerances, use of sectioning techniques, common fasteners, pictorial drawings, including bill of materials.

DFTG 1358 Electrical/Electronic Drafting

Prerequisite: DFTG 1305

Credit: 3 (2 lecture, 4 lab)

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.

DFTG 1371 Process Plant Layout

Credit: 3 (2 lecture, 3 lab)

A study of process plant design and layout while developing the basic knowledge of pipe fittings, symbols, specifications, and their applications in the piping process systems. The learner will demonstrated the use of piping symbols and the processes used to develop flow diagrams, piping plans, elevations, and isometrics.

DFTG 1391 Special Topics in Drafting

Prerequisite: DFTG 2319

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

DFTG 1392 Special Topics in Architectural Drafting and Architectural CAD/CADD

Prerequisite: DFTG 2319

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

DFTG 1394 Special Topics in Electrical/Electronics Drafting and Electrical/Electronics CAD/CADD

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

DFTG 1395 Special Topics in Mechanical Drafting and Mechanical Drafting CAD/CADD

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

DFTG 1396 Special Topics in Computer Graphics

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

DFTG 2300 Intermediate Architectural Drafting - Residential

Prerequisite: DFTG 1317

Credit 3 (2 lecture, 4 lab)

Continued application of principles and practices used in residential construction.

DFTG 2302 Machine Drafting

Prerequisite: DFTG 1333

Credit: 3 (2 lecture, 4 lab)

Production of detail and assembly drawings of machine, threads, gears, cams, tolerances and limit dimensioning, surface finishes, and precision drawings.

DFTG 2305 Printed Circuit Board Design

Prerequisite: DFTG 1358

Credit: 3 (2 lecture, 4 lab)

Course includes single-sided and double-sided printed circuit board design, emphasizing the drawings, standards, and processes required to layout printed circuit board and manufacturing documentation.

DFTG 2306 Machine Design
Prerequisite: DFTG 2302
Credit: 3 (2 lecture, 4 lab)
Theory and practice of design. Projects in problem solving, including press fit, bolted and welded joints, and transmission components.

DFTG 2308 Instrumentation Drafting
Prerequisite: DFTG 2323 or DFTG 1329
Credit: 3 (2 lecture, 4 lab)
Principles of instrumentation as applicable to industrial applications; fundamentals of measurements and control devices; currently used ISA (Instrument Society of America) symbology; basic flow sheet layout, and drafting practices.

DFTG 2316 Electrical Drafting
Prerequisite: DFTG 1305
Credit: 3 (2 lecture, 4 lab)
A study of electrical drawing preparation as applied to commercial and industrial standards.

DFTG 2317 Descriptive Geometry
Prerequisite: DFTG 1305
Credit: 3 (2 lecture, 4 lab)
Graphical solutions to problems involving points, lines, and planes in space.

DFTG 2319 Intermediate Computer-Aided Drafting
Prerequisite: DFTG 1309 and DFTG 1305
Credit: 3 (2 lecture, 4 lab)
A continuation of practices and techniques used in basic computer-aided drafting emphasizing advanced dimensioning techniques, the development and use of prototype drawings, construction of pictorial drawings, construction of 3-dimensional drawings, interfacing 2-D and 3-D environments and extracting data.

DFTG 2323 Pipe Drafting
Prerequisite: DFTG 1305
Credit: 3 (2 lecture, 4 lab)
A study of pipe fittings, symbols, specifications, and their applications to a piping process system. Creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics.

DFTG 2328 Architectural Drafting - Commercial
Prerequisite: DFTG 1317
Credit: 3 (2 lecture, 4 lab)
Architectural drafting procedures, practices, and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods.

DFTG 2330 Civil Drafting
Prerequisite: DFTG 1305
Credit: 3 (2 lecture, 4 lab)
An in-depth study of drafting methods and principles used in civil engineering.

DFTG 2331 Advanced Technologies in Architectural Design and Drafting
Prerequisite: DFTG 2319
Credit: 3 (2 lecture, 4 lab)
Use of architectural specific software to execute the elements required in designing standard architectural exhibits utilizing custom features to create walls, windows and specific design requirements for construction in residential/ commercial and industrial architecture.

DFTG 2332 Advanced Computer-Aided Drafting
Prerequisite: DFTG 2319
Credit: 3 (2 lecture, 4 lab)
Advanced techniques, including the use of a customized system. Presentation of advanced drawing applications, such as three-dimensional solids modeling and linking graphic entities to external non-graphic data.

DFTG 2335 Advanced Technologies in Mechanical Design and Drafting
Prerequisite: DFTG 2319
Credit: 3 (2 lecture, 4 lab)
Use parametric based mechanical design software for mechanical assembly design and drafting.

DFTG 2338 Final Project - Advanced Drafting
Prerequisite: DFTG 1305
Credit: 3 (2 lecture, 4 lab)
A drafting course in which students participate in a comprehensive project from conception to conclusion.

DFTG 2340 Solid Modeling/Design
Prerequisite: DFTG 2319
Credit: 3 (2 lecture, 4 lab)
A computer-aided modeling course. Development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work.

DFTG 2345 Advanced Pipe Drafting
Prerequisite: DFTG 2323
Credit: 3 (2 lecture, 4 lab)
A continuation of pipe drafting concepts building on the basic principles acquired in pipe drafting.

DFTG 2358 Advanced Machine Design
Prerequisite: DFTG 2306
Credit: 3 (2 lecture, 4 lab)
Design process skills for the production of complete design package, which includes jig and fixture design, extrusion dies, and injection mold design.

DFTG 2370 Intermediate Computer-Aided Drafting-Microstation
Prerequisite: DFTG 1370
Credit: 3 (2 lec, 4 lab)
A continuation of practices and techniques used in the basic computer-aided drafting (Microstation), emphasizing advanced dimensioning techniques, the development and use of prototype drawings, construction of pictorial drawings, construction of three (3) dimensional drawings, interfacing 2D and 3D environments and extracting data.

DFTG 2371 Advanced Technologies in Process Plant Design-Autoplant
Prerequisite: DFTG 2319 or 2370
Credit: 3 (2 lec, 4 lab)
Use process plant based mechanical design software for specific applications in industrial design and drafting.

DFTG 2372 Piping Plans and Process Equipment
Credit: 3 (2 lecture, 3 lab)
A continuation of process pipe design concepts, building on the principles acquired in Process Plant Layout.

DFTG 2380 Cooperative Education - Drafting and Design Technology/ Technician, General
Prerequisite: Complete 12 semester hours in Drafting Program and Department Approval
Credit: 3 (1 lecture, 20 lab)
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Course Descriptions

DFTG 2381 Cooperative Education - Drafting and Design Technology/ Technician, General

Prerequisite: Complete 12 semester hours in Drafting Program and Department Approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

DHYG 1123 Dental Hygiene Practice

Credit: 1 (1 lecture, 1 lab)

Practice settings for the dental hygienist including office management, employment considerations, resume preparation, and job interviewing. Emphasis on the laws governing the practice of dentistry and dental hygiene, moral standards, and the ethical standards established by the dental hygiene profession

DHYG 1207 General & Dental Nutrition

Credit: 2 (2 lecture)

General nutrition and nutritional biochemistry with emphasis on the effects of nutrition, dental health, diet, and application of counseling strategies.

DHYG 1211 Periondontology

Credit: 2 (2 lecture)

Normal and diseased periodontium including the structural, functional, and environmental factors. Emphasis on etiology, pathology, treatment modalities, and therapeutic and preventive periodontics in a contemporary practice setting.

DHYG 1227 Preventive Dental Hygiene Care

Credit: 2 (2 lecture)

The dental hygienist in the dental health care system emphasizing the basic concepts of disease prevention and health promotion. Communication and behavior modification skills are presented to facilitate the role of the dental hygienist as an educator.

DHYG 1235 Pharmacology for the Dental Hygienist

Credit: 2 (2 lecture)

Classes of drugs and their uses, actions, interactions, side effects, contraindications, and systemic and oral manifestations with emphasis on dental applications

DHYG 1260 Clinical - Dental Hygiene/ Hygienist

Credit: 2 (12 lab)

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.

DHYG 1261 Clinical - Dental Hygiene/ Hygienist

Credit: 2 (8 lab)

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.

DHYG 1301 Oroficial Anatomy, Histology & Embryology

Credit: 3(2 lecture, 4 lab)

The histology and embryology of oral tissues, gross anatomy of the head and neck, tooth morphology, and individual tooth identification.

DHYG 1304 Dental Radiology

Credit: 3 (2 lecture, 4 lab)

Radiation physics, biology, hygiene, and safety theories with an emphasis on the fundamentals of oral radiographic techniques and interpretation of radiographs. Includes exposure of intra-oral radiographs, quality assurance, radiographic interpretation, patient selection criteria, and other ancillary radiographic techniques.

DHYG 1315 Community Dentistry

Credit: 2 (2 lecture, 3 lab)

The principles and concepts of community public health and dental health education emphasizing community assessment, educational planning, implementation, and evaluation including methods and materials used in teaching dental health education in various community settings.

DHYG 1319 Dental Materials

Credit: 3 (2 lecture, 3 lab)

Physical and chemical properties of dental materials including the application and manipulation of the various materials used in dentistry.

DHYG 1339 General and Oral Pathology

Credit: 3 (3 lecture)

Disturbances in human body development, diseases of the body, and disease prevention measures with emphasis on the oral cavity and associated structures.

DHYG 1431 Preclinical Dental Hygiene

Credit: 3 (2 lecture, 6 lab)

Foundational knowledge for performing clinical skills on patients with emphasis on principles, procedures, and professionalism for performing comprehensive oral prophylaxis.

DHYG 2201 Contemporary Dental Hygiene Care I

Credit: 2 (2 lecture)

Dental hygiene care for the medically or dentally compromised patient with emphasis on supplemental instrumentation techniques.

DHYG 2231 Contemporary Dental Hygiene Care II

Credit: 2 (2 lecture)

Dental hygiene care for the medically or dentally compromised patient with emphasis on advanced instrumentation techniques.

DHYG 2260 Clinical - Dental Hygiene/ Hygienist

Credit: 2 (12 lab)

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.

DHYG 2360 Clinical - Dental Hygiene/ Hygienist

Credit: 3 (16 lab)

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.

DMSO 1210 Introduction to Sonography

Prerequisite: Admission to the program

Credit: 2 (1 lecture; 2 lab)

An introduction to the profession of sonography and the role of the sonographer. Emphasis on medical terminology, ethical/legal aspects, written and verbal communication, and professional issues related to registry, accreditation, professional organizations and history of the profession.

DMSO 1266 Practicum (or Field Experience) - Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Prerequisites: DMSO 1302, 1355, 1441,1451

Credit: 2 (16 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

DMSO 1302 Basic Ultrasound Physics

Prerequisite: Admission to the program

Credit: 3 (3 lecture, 1 lab)

Basic acoustical physics and acoustical waves in human tissue. Emphasis is on ultrasound transmission in soft tissues, attenuation of sound energy, parameters affecting sound transmission and resolution of sound beams.

DMSO 1342 Intermediate Ultrasound Physics

Prerequisite: DMSO 1302

Credit: 3 (3 lecture, 1 lab)

Continuation of Basic Ultrasound Physics. Includes interaction of ultrasound with tissues, mechanics of ultrasound production and display, various transducer designs and construction, quality assurance, bioeffects, and image artifacts. May introduce methods of Doppler flow analysis.

DMSO 1355 Sonographic Pathophysiology

Prerequisite: Admission to program

Credit: 3 (2 lecture; 2 lab)

Pathology and pathophysiology of the abdominal structures visualized with ultrasound. Includes abdomen, pelvis, and superficial structures.

DMSO 1441 Abdominopelvic Sonography

Prerequisite: Admission to program

Credit: 4 (3 lecture, 4 lab)

Normal anatomy and physiology of the abdominal and pelvic cavities as related to scanning techniques, transducer selection, and scanning protocols.

DMSO 1451 Sonographic Sectional Anatomy

Prerequisite: Admission to program

Credit: 4 (3 lecture, 2 lab)

Sectional anatomy of the male and female body. Includes anatomical relationships of organs, vascular structures, and body planes and quadrants.

DMSO 2243 Advanced Ultrasound Principles and Instrumentation

Prerequisites: DMSO 1302, DMSO 1342 and DMSO 2351

Credit: 2 (2 lecture)

Theory and application of ultrasound principles. Includes advances in ultrasound technology.

DMSO 2245 Advanced Sonography Practices

Prerequisites: All DMSO courses

Credit: 2 (2 lecture)

Exploration of advanced sonographic procedures and emerging ultrasound applications.

DMSO 2253 Sonography of Superficial Structures

Prerequisites: DMSO 2405, DMSO 2441

Credit: 2 (2 lecture)

Detailed study of normal and pathological superficial structures as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

DMSO 2266 Practicum (or Field Experience) - Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Prerequisite: DMSO 1266

Credit: 2 (16 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

DMSO 2342 Sonography of High Risk Obstetrics

Prerequisite: DMSO 2405

Credit: 3 (2 lecture, 2 lab)

Maternal disease and fetal abnormalities. Includes scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.

DMSO 2351 Doppler Physics

Prerequisite: DMSO 1342

Credit: 3 (3 lecture)

Doppler and hemodynamic principles relating to arterial and venous imaging and testing.

DMSO 2405 Sonography of Obstetrics/ Gynecology

Prerequisite: DMSO 1451

Credit: 4 (4 lecture, 1 lab)

Detailed study of the pelvis and obstetrics/ gynecology as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

DMSO 2441 Sonography of Abdominopelvic Pathology

Prerequisites: DMSO 1355, DMSO 1441, DMSO 1451

Credit: 4 (3 lecture, 4 lab)

Pathologies and disease states of the abdomen and pelvis as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Emphasizes endocavitary sonographic anatomy and procedures including pregnancy.

DMSO 2467 Practicum (or Field Experience) - Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Prerequisites: All DMSO courses

Credit: 4 (32 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

DNTA 1102 Communication and Behavior in the Dental Office

Credit: 1 (1 lecture)

Provides for better understanding of human interaction in the dental office. Studies motivation and learning experiences as related to the dental health care provider, focused on practical applications of human behavior.

DNTA 1167 Practicum-Dental Assistant

Prerequisites: DNTA 1401, DNTA 1245, DNTA 1411, DNTA 1415, DNTA 1205

Credit: 1 (10 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

DNTA 1205 Dental Radiology

Credit: 2 (1 lecture, 3 lab)

Introduction to radiation physics, protection, the operation of radiographic equipment, exposure, processing and mounting of dental radiographs. Specific safety and standard precautions for the classroom and lab settings will be practiced.

DNTA 1245 Preventive Dentistry

Credit: 2 (2 lecture)

The study and prevention of dental diseases and community dental health.

Course Descriptions

DNTA 1349 Dental Radiology in the Clinic

Prerequisite: DNTA 1205

Credit: 3 (2 lecture, 3 lab)

The practical application of exposing, processing and mounting of dental radiographs obtained by utilizing various radiographic techniques. This course will encompass critical evaluation of all procedures.

DNTA 1351 Dental Office Management

Prerequisite: DNTA 1415

Credit: 3 (3 lecture)

The study of business office procedures, including telephone management, appointment control, receipt of payment for dental services, completion of third-party reimbursement forms, supply inventory maintenance, data entry for charges and payments, recare management (manage recall systems), federal and state guidelines regarding health care providers, and operating basic business equipment.

DNTA 1401 Dental Materials

Credit: 4 (3 lecture, 3 lab)

Structure, properties, and procedures related to dental materials. Includes safety and standard precautions practiced in the lab and classroom settings.

DNTA 1411 Dental Science

Credit: 4 (4 lecture)

An introduction to anatomical systems with emphasis placed on head and neck anatomy. Topics include the physiology and morphology of the deciduous and permanent teeth along with basic dental terminology.

DNTA 1415 Chairside Assisting

Credit: 4 (3 lecture, 3 lab)

An introduction to pre-clinical chairside assisting procedures, instrumentation, infection and hazard control protocol, equipment safety and maintenance.

DNTA 1447 Advanced Dental Science

Prerequisite: DNTA 1411

Credit: 4 (4 lecture)

A study of anatomical systems with emphasis on pharmacology, oral pathology and developmental abnormalities.

DNTA 1453 Dental Assisting Applications

Prerequisites: DNTA 1401, DNTA 1415

Credit: 4 (3 lecture, 3 lab)

Comprehensive procedures and applications for the general and specialty areas of dentistry.

DNTA 2130 Seminar for the Dental Assistant

Prerequisites: DNTA 1167, DNTA 1453, DNTA 1349, DNTA 1351, DNTA 1447

Credit: 1 (1 lecture)

This seminar will allow problem solving case studies during the clinical phase of practicum.

DNTA 2267 Practicum-Dental Assistant

Prerequisite: DNTA 1167

Credit: 2 (15 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

DRAM 1161 Musical Theatre I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 1 (0 lecture, 4 lab)

Focus on the study and performance of works from the musical theatre repertory, including musical comedy, reviews, operetta, and basic vocal and movement skills. Theatre attendance and/or assistance in college productions required. Core curriculum course. (formerly DRAM 1172)

DRAM 1162 Musical Theatre II

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 1 (0 lecture, 4 lab)

Focus on the study and performance of works from the musical theatre repertory, including musical comedy, reviews, operetta, and basic vocal and movement skills. Theatre attendance and/or assistance in college productions required. Core curriculum course.

DRAM 1310 Introduction to Theatre

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Basic principles of theatre, including the various styles of theatrical production and present practices in the theatre. Required of majors. Open to non-majors. Core Curriculum Course.

DRAM 1320 Performance

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 4 lab)

This class is devoted to the rehearsal and performance of one or more plays and is designed to give the student experience in applying his performance techniques for an audience.

DRAM 1322 Stage Movement

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

A course to develop the actor's expressive use of the body through pantomime, tumbling, acrobatics, fencing, and stage fighting.

DRAM 1330 Basic Theatre Practice I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

Stagecraft, stage properties, and makeup. Practical experience on technical crews is provided. Laboratory hours may be arranged. Required of majors. Open to non-majors.

DRAM 1341 Stage Makeup

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Principles of straight and character makeup. Student must purchase basic makeup kit. Theatre attendance and/or assistance in college productions required. Required of majors. Open to non-majors.

DRAM 1351 Acting I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

An introduction to the problems of internal acting technique, creation of visual images, reaction to stimulus, and creation of inner life of character. Scene work: finding beats, developing subtext, and playing intentions. Theatre attendance and/or assistance in college productions required. Required of majors. Open to non-majors. Core Curriculum Course.

DRAM 1352 Acting II

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

An introduction to the problems of external acting technique with emphasis on characterization using animal, color and inanimate object improvisational techniques. Scene work focuses on comedic technique including analyzing incongruities, playing opposites, and timing. Theatre attendance and/or assistance in college productions required. Required of majors. Open to non-majors. Core Curriculum Course.

DRAM 2331 Basic Theatre Practice II

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

A continuation of DRAM 1330. Required of majors. Open to non-majors.

DRAM 2336 Vocal Production

Recommended Prerequisite: SPCH 1342; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Emphasis on vocal production: breathing and support, resonance, pitch, range, quality projection. Emphasis on oral interpretation skills. SPCH 1342 recommended.

DRAM 2337 Voice for the Actor I

Prerequisites: SPCH 1342, DRAM 2336, or Department Approval; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Acting with voice: combining proper production techniques and correct pronunciation and articulation, the actor learns to be expressive vocally. Analysis of the emotional potential of vowel and consonant sounds and combinations. Scansion, phrasing, rhythm and dynamics.

DRAM 2338 Voice for the Actor II

Prerequisites: SPCH 1342 or a demonstrable knowledge of the IPA; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Accents and dialects. Using the International Phonetic Alphabet (IPA) students learn the alterations from English needed to produce correctly the sounds of most needed foreign accents, including standard British, Cockney, French, German, American New York, and Southerners, among others.

DRAM 2351 Acting III

Prerequisites: DRAM 1351,1352 or Department Approval Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

A study of classical acting style with an emphasis on Shakespeare. Special attention is paid to movement and vocal technique dealing with the problems of period movement and heightened language.

DRAM 2361 History of the Theatre

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Survey of the theatre from its beginning. Core Curriculum Course.

DRAM 2363 History of Musical Theatre

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Development of musical theatre art from the earliest times through the 21st Century. Core curriculum course.

DRAM 2366 Survey and History of Film

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Emphasis on the analysis of the visual and aural aspects of selected motion pictures, dramatic aspects of narrative films, and historical growth and sociological effect of film as an art. Core Curriculum Course.

DRAM 2367 The Art of Film Making

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

The analysis of key masterworks of American and international films with particular emphasis on works by famed and influential directors. Core curriculum course.

DRAM 2389 Academic Cooperative in Drama

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in drama. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of drama.

DSVT 1103 Introduction to Vascular Technology

Credit: 1 (1 lecture)

An introduction to basic noninvasive vascular theories, with emphasis on basic skills and knowledge, such as image orientation, transducer handling, and identification of anatomic structures.

ECON 1301 Introduction to Economics

Credit: 3 (3 lecture)

Examination of the structure and operation of the American economic system. Introduction to selected economic principles essential to the understanding of contemporary issues. May not be substituted for ECON 2301 or ECON 2302.

ECON 2289 Academic Cooperative in Economics

Prerequisites: Departmental approval only.

Credit: 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in economics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

ECON 2301 Principles of Macroeconomics

Prerequisites: Must be placed into college-level reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Macroeconomics examines the fundamentals of the American economy as it relates to social welfare. Emphasis is on basic concepts and theories as they affect domestic and international markets. This course integrates behavioral social sciences to present solutions to real world problems. Macroeconomics includes measurements of GDP, fiscal and monetary policy. Core Curriculum Course.

ECON 2302 Principles of Microeconomics

Prerequisites: Must be placed into college-level reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Microeconomics examines the fundamentals of the American economy as it relates to business and individual welfare. Emphasis is on basic concepts and theories as they affect domestic and international markets. Microeconomics includes cost and production decisions and discusses the role of competition, monopolies and oligopolies. Core Curriculum Course.

Course Descriptions

ECON 2311 Economic Geography

Prerequisite: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Analytical study of the historical development of particular economic distributions as they relate to social, cultural, political, and physical factors. Includes critical inquiry into the reasons for location of various types of economic activity, production, and marketing. This course explores markets and people across time and spatial dimensions. The course also discusses exchange rates and factors which influence them. It includes analysis of world fundamental occupations and commodities. Cross-listed with GEOG 2312. Core Curriculum Course.

ECON 2289 Academic Cooperative in Economics

Prerequisites: Departmental approval only.

Credit: 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in economics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

ECON 2389 Academic Cooperative in Economics

Prerequisites: Departmental approval only.

Credit: 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in economics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions

ECRD 1211 Electrocardiography

Credit: 2 (1 lecture, 3 lab)

Fundamentals of cardiovascular anatomy and physiology. Includes basic electrocardiography procedures, interpretation of basic dysrhythmias, and appropriate treatment modalities.

EDUC 1200 Careers in Education

Prerequisite: Must be placed into GUST 0341 or higher.

Credit: 2 (2 lecture, 1 lab)

Cognitive psychology and teacher education research has resulted in a greatly improved and greatly increased body of knowledge on how students and teachers learn. At this time, there is a striking gap between the knowledge of learning and the application of that knowledge to teachers' preparation programs. EDUC 1200 enables the student to develop effective academic behaviors for college success and be able to transfer these behaviors into the teaching experience. For successful and sustained reform to occur in the field of teaching, the changes made in how teaching and learning take place in schools must be mirrored in how teachers are prepared to teach. Note: This course qualifies as a Student Success Course

EDUC 1300 Learning Framework

Prerequisite: Must be placed into GUST 0341 (or higher).

Credit: 3 (3 lecture)

Cognitive psychology and teacher education research has resulted in a greatly improved and greatly increased body of knowledge on how students and teachers learn. At this time, there is a striking gap between the knowledge of learning and the application of that knowledge to teachers' preparation programs. EDUC 1300 enables the student to develop effective academic behaviors for college success and be able to transfer these behaviors into the teaching experience. For successful and sustained reform to occur in the field of teaching, the changes made in how teaching and learning take place in schools must be mirrored in how teachers are prepared to teach. Note: This course qualifies as a Student Success Course

EDUC 1301 Introduction to Education

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

This course is designed to help individuals decide whether teaching could be a satisfying career for them. Information concerning the role of education and educators, teacher preparation programs, effective teaching, employability, and rewards and challenges of teaching is presented.

EDUC 1325 Multicultural Education

Prerequisite/Corequisite: EDUC 1301; Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

An examination of cultural diversity found in society and reflected in the classroom. Topics will include the study of major cultures and their influence on lifestyle, behavior, learning, intercultural communication and teaching, as well as psychosocial stressors encountered by diverse cultural groups.

EDUC 2301 Children with Special Needs

Prerequisites: EDUC 1301, Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

This course introduces the student to the medical, psychological, social, and personal characteristics of exceptional students in the regular and special classroom. Issues related to this area will also be introduced. These include diversity and exceptionality, infants and young children with special needs, families of exceptional children, the use of technology in special education, and transition to work and community living.

EECT 1307 Convergent Technologies

Credit: 3 (2 lecture, 4 lab)

A study of telecommunications convergent technologies including telephone, LAN, WAN, wireless, voice, video, and internet protocol.

EECT 1440 Telecommunications Transmission Media

Credit: 4 (3 lecture, 2 lab)

Fundamentals of telecommunications media, including installation, maintenance, and troubleshooting. Topics address media characteristics and connectorization.

EECT 2337 Wireless Telephone Systems

Prerequisite: EECT 2439

Credit: 3 (2 lecture, 4 lab)

Principles of wireless/cellular telephony systems to include call processing, hand-off, site analysis, antenna radiation patterns, commonly used test/maintenance equipment and access protocol.

EECT 2380 Cooperative Education-Electrical Electronic and Communications Engineering Technology/Technician

Prerequisite: Preassigned/Program approval

Credit: 3 (1 lecture/seminar, 20 hours of work experience per week)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

EECT 2389 Internship - Electrical, Electronic and Communications Engineering Technology/Technician

Prerequisite: Department Approval

Credit: 3 (1 lecture, 17 lab)

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.

EECT 2433 Telephone Systems

Prerequisite: CETT 1409 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Study of installation and maintenance systems including telephone set, public switched networks, local exchanges, networks, two- and four-wire systems, tip and ringing requirements, and digital transmission techniques.

EECT 2439 Communications Circuits

Prerequisite: CETT 1429 or Department Approval

Credit: 4 (3 lecture, 3 lab)

A study of communications systems with emphasis on amplitude modulation, frequency modulation, phase modulation, and digital pulse modulation. Discussion of several types of modulators, demodulators, receivers, transmitters, and transceivers.

EEIR 1307 Introductory Security Systems

Prerequisite: ELPT 1311

Credit: 3 (2 lecture, 3 lab)

A study of the security system components, maintenance, troubleshooting, and repair procedures. Emphasis on the installation of security systems as directed.

EEIR 1345 Intermediate Security Systems

Prerequisite: EEIR 1307

Credit: 3 (2 lecture, 3 lab)

A study of maintenance, troubleshooting, and repair of security systems of moderate complexity. Emphasis on the maintenance of security systems with limited instructor direction.

ELMT 1301 Programmable Logic Controllers

Prerequisite/Corequisite: ELPT 1341

Credit: 3 (2 lecture, 3 lab)

An introduction to programmable logic controllers as used in industrial environments including basic concepts, programming, applications, troubleshooting of ladder logic, and interfacing of equipment.

ELMT 2333 Industrial Electronics

Prerequisite: ELMT 2341

Credit: 3 (2 lecture, 3 lab)

A study of devices, circuits, and systems primarily used in automated manufacturing and/or process control including computer controls and interfacing between mechanical, electrical, electronic, and computer equipment. Presentation of programming schemes.

ELMT 2337 Electronic Troubleshooting, Service, and Repair

Prerequisite: CETT 1429, CETT 1425

Credit: 3 (2 lecture, 2 lab)

In-depth coverage of electronic systems, maintenance, troubleshooting, and repair. Topics include symptom identification, proper repair procedures, repair checkout, and preventative maintenance. Emphasis on safety and proper use of test equipment. May be offered as a capstone course.

ELMT 2341 Electromechanical Systems

Prerequisite: DEMR 1405

Credit: 3 (1 lecture, 4 lab)

Covers the application of electromechanical systems, including linear and rotational positioning systems, and their associated control systems, and the methods employed to operate them. Students will devise open and closed loop control solutions for a variety of positioning and power transformation problems. Emphasis is placed on programmable control devices and solid state systems.

ELPT 1215 Electrical Calculations I

Credit: 2 (1 lecture, 3 lab)

Introduction to mathematical applications utilized to solve problems in the electrical field. Topics include fractions, decimals, percentages, simple equations, ratio and proportion, unit conversions, applied geometry, area and volume calculations, simple algebraic equations, inequalities and the use of triangles to calculate electrical values.

ELPT 1221 Introduction to Electrical Safety and Tools

Credit: 2 (1 lecture, 2 lab)

A comprehensive overview of safety rules and regulations and the selection, inspection, use, and maintenance of common tools for electricians. Emphasis is given to safety rules and accepted safety practices in the workplace, the use of hand tools, power tools and the proper selection, function and operation of common electrical measuring instruments.

ELPT 1311 Basic Electrical Theory

Prerequisite/Corequisite: ELPT 1215

Credit: 3 (2 lecture, 3 lab)

Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current.

ELPT 1325 National Electrical Code I

Prerequisite/Corequisite: ELPT 1215

Credit: 3 (2 lecture, 2 lab)

An introductory study of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring design, protection, methods, and materials; equipment for general use; and basic calculations.

ELPT 1329 Residential Wiring

Prerequisite/Corequisite: ELPT 1221

Credit: 3 (2 lecture, 3 lab)

Wiring methods for single family and multi-family dwellings. Includes load calculations, service entrance sizing, proper grounding techniques, and associated safety procedures.

ELPT 1341 Motor Control

Corequisite: ELPT 1311

Credit: 3 (2 lecture, 3 lab)

Operating principles of solid-state and conventional controls along with their practical applications. Includes braking, jogging, plugging, safety interlocks, wiring, and schematic diagram interpretations.

ELPT 1345 Commercial Wiring

Prerequisite: ELPT 1221 and ELPT 1329

Corequisite: ELPT 1325

Credit: 3 (2 lecture, 3 lab)

Commercial wiring methods. Includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures.

ELPT 1355 Electronic Application

Prerequisite/Corequisite: ELPT 1311

Credit: 3 (2 lecture, 3 lab)

Electronic principles and the use of electronic devices. Includes diodes, transistors, and rectifiers.

ELPT 2301 Journeyman Electrician Exam Review

Prerequisite: Department Approval

Credit: 3 (2 lecture, 2 lab)

Preparation for journeyman electrician licensure with emphasis on calculations and the National Electrical Code (NEC).

ELPT 2325 National Electrical Code II

Prerequisite/Corequisite: ELPT 1215 and ELPT 1325

Credit: 3 (2 lecture, 2 lab)

In-depth coverage of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring protection and methods, special conditions, and advanced calculations. Topics include hazardous location classifications and divisions, wiring methods and materials for electrical installations in special occupancies.

ELPT 2364 Practicum (or Field Experience) - Electrical and Power Transmission Installer, Power Technology

Prerequisite: Department Approval

Credit: 3 (30 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

Course Descriptions

ELPT 2365 Practicum (or Field Experience) - Electrical and Power Transmission Installer, Power Technology
Prerequisite: Department Approval
Credit: 3 (30 lab)
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

ELPT 2419 Programmable Logic Controllers I
Prerequisite: ELMT 1301 or Department Approval
Credit: 4 (3 lecture, 2 lab)
Fundamental concepts of programmable logic controllers, principles of operation, and numbering systems as applied to electrical controls.

ELPT 2449 Industrial Automation
Prerequisite/Corequisite: ELPT 2455
Credit: 4 (3 lecture, 2 lab)
Electrical control systems, applications, and interfacing utilized in industrial automation.

ELPT 2455 Programmable Logic Controllers II
Prerequisite: ELPT 2419
Credit: 4 (3 lecture, 2 lab)
Advanced concepts in programmable logic controllers and their applications and interfacing to industrial controls.

EMSP 1160 Clinical-EMT Basic
Prerequisite: EMSP 1401
Credit: 1 (3 lab)
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.

EMSP 1263 Clinical Foundations
Prerequisite: EMSP 1355
Credit: 2 (9 lab)
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.

EMSP 1338 Introduction to Advanced Practice
Prerequisite: EMSP 1160
Credit: 3 (2 lecture, 4 lab)
An exploration of the foundations necessary for mastery of the advanced topics of clinical practice out of the hospital.

EMSP 1355 Trauma Management
Prerequisite: EMSP 1356
Credit: 3 (2 lecture, 4 lab)
A detailed study of the knowledge and skills in the assessment and management of patients with traumatic injuries.

EMSP 1356 Patient Assessment and Airway Management
Prerequisite: EMSP 1338
Credit: 3 (2 lecture, 4 lab)
A detailed study of the knowledge and skills required to perform patient assessment and airway management.

EMSP 1391 Special Topics in EMS
Credit: 3 (3 lecture)
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.

EMSP 1401 Emergency Medical Technician–Basic
Credit: 4 (3 lecture, 4 lab)
Introduction to the level of Emergency Medical Technician (EMT)-Basic. Includes all the skills necessary to provide emergency medical care at a basic life support level with an ambulance service or other specialized services.

EMSP 2135 Advanced Cardiac Life Support
Credit: 1 (2 lab)
Skill development for professional personnel practicing in critical care units, emergency departments, and paramedic ambulances. Establishes a system of protocols for management of the patient experiencing cardiac difficulties.

EMSP 2160 Clinical - Emergency Medical Technology/Technician (EMT Paramedic)/ Cardiology
Corequisite: EMSP 2444
Credit: 1 (5 lab)
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.

EMSP 2243 Assessment Based Management
Prerequisite: EMSP 2261
Credit: 2 (1 lecture, 4 lab)
Comprehensive, assessment-based patient care management. Includes specific care when dealing with pediatric, adult, geriatric, and special needs patients.

EMSP 2248 Emergency Pharmacology
Prerequisite: EMSP 1263
Credit: 2 (1 lecture, 4 lab)
A comprehensive course covering all aspects of the utilization of medications for treating emergency situations. Course is designed to complement Cardiology, Special Populations, and Medical Emergency courses.

EMSP 2260 Clinical- Emergency Medical Technology/Technician (EMT Paramedic)/ Special Populations
Corequisite: EMSP 2330
Credit: 2 (9 lab)
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.

EMSP 2261 Clinical- Emergency Medical Technology/Technician (EMT Paramedic)/ Field
Corequisite: EMSP 2338
Credit: 2 (9 lab)
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.

EMSP 2330 Special Populations
Prerequisite: EMSP 2434
Credit: 3 (2 lecture, 4 lab)
A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of ill or injured patients in nontraditional populations.

EMSP 2338 EMS Operations
Prerequisite: EMSP 2330
Credit: 3 (2 lecture, 4 lab)
A detailed study of the knowledge and skills to safely manage the scene of an emergency.

EMSP 2352 Emergency Medical Services Research
Corequisite: EMSP 2243
Credit: 3 (2 lecture, 2 lab)
Primary and/or secondary research in current and emerging issues in EMS. Basic research principles, scientific inquiry, and interpretation of professional literature are emphasized.

EMSP 2434 Medical Emergencies
Prerequisite: EMSP 2160
Credit: 4 (4 lecture, 1 lab)
A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with medical emergencies.

EMSP 2444 Cardiology

Prerequisite: EMSP 2248

Credit: 4 (2 lecture, 6 lab)

Assessment and management of patients with cardiac emergencies. Includes basic dysrhythmia interpretation, recognition of 12-lead EKGs for field diagnosis, and electrical and pharmacological interventions.

ENGL 0100 Developmental English

Prerequisite: Department Chair approval

Credit: 1 (1 lecture)

An individualized curriculum for students whose test scores demonstrate high proficiency but do not meet state requirements for placement into college level course work. This course will present a concentrated review of the Writing Process and basic grammar and sentence structure. Department Chair approval required.

ENGL 0300 Fundamentals of Grammar and Composition I

Prerequisites: Must be placed into ENGL 0300 (or higher) in writing.

Credit: 3 (3 lecture)

A refresher course devoted to improving basic English skills for native speakers. (NOTE: Instead of ENGL 0300, non-native speakers must refer to ENGL 0340-0349 or ESOL 0341-0356). Emphasizes grammar, sentence structure, and paragraph development through essay writing.

ENGL 0310 Fundamentals of Grammar and Composition II

Prerequisites: Must be placed into ENGL 0310 or completion of ENGL 0300.

Credit: 3 (3 lecture)

A course designed to prepare students for ENGL 1301. Students will ordinarily proceed to ENGL 0310 after taking ENGL 0300. Some students may, however, test directly into ENGL 0310 (ENGL 0300 is not a prerequisite for ENGL 0310). ENGL 0310 provides a basic review of the principles of grammar, usage and mechanics and utilizes the writing process to teach the students to write short essays (350-500 words).

ENGL 0320 Advanced Grammar and TOEFL Preparation

Prerequisite: A satisfactory score on the CELSA test or completion of ENGL 0346

Credit: 3 (3 lecture)

An advanced grammar review and listening skills development. Excellent preparation for ESL students who must pass the TOEFL in order to transfer to a four-year institution.

ENGL 0340 English Grammar and Conversation for Foreign Speakers I

Prerequisite: A satisfactory score on the CELSA Test

Credit: 3 (3 lecture, 1 lab)

A course in English grammar and conversation. This course is intended to aid foreign students in acquiring fluency in spoken English. The approach is communicative, involving grammar study, oral exercises, dialogues, and role playing. All four language skills (listening, speaking, reading, and writing) are developed.

ENGL 0341 English Grammar and Conversation for Foreign Speakers II.

Prerequisite: A satisfactory score on the CELSA Test or completion of ENGL 0340

Credit: 3 (3 lecture, 2 lab)

An intermediate course in English grammar and conversation. This course is a continuation of the skills acquired in ENGL 0340 and uses the same approach. It should be taken prior to ENGL 0346, although some students whose assessment score qualifies them for ENGL 0346 may be advised to take ENGL 0341 as a companion course.

ENGL 0343 Advanced Conversation for Foreign Speakers

Prerequisite: English 0341 or sufficient assessment score for English 0346 or above

Credit: 3 (3 lecture, 2 lab)

Students discuss current events and cultural topics in English. Pronunciation, vocabulary development, and group discussion skills are stressed. May be taken concurrently with other English courses.

ENGL 0346 Grammar and Composition for Foreign Speakers I

Prerequisite: A satisfactory score on the CELSA Test or completion of ENGL 0341

Credit: 3 (3 lecture, 1 lab)

An intermediate course in English grammar and composition designed to help the student acquire a greater facility in written English. This course is designed for the student who already possesses adequate conversational skill and is pursuing a college career. This course emphasizes grammar, vocabulary, sentence composition, and paragraph writing. It may be taken with ENGL 0341 or 0343 if the student placed into 0346 wishes more proficiency in conversation.

ENGL 0347 Grammar and Composition for Foreign Speakers II

Prerequisite: A satisfactory score on the CELSA Test or completion of ENGL 0346

Credit: 3 (3 lecture, 1 lab)

An advanced course in English grammar and composition designed to help the foreign student who already has some elementary skills in English grammar and composition. This course is a continuation of ENGL 0346, and focuses more on advanced grammar and essay writing.

ENGL 0349 Advanced Composition for Foreign Speakers

Prerequisite: A satisfactory score on the CELSA Test or completion of ENGL 0347

Credit: 3 (3 lecture, 1 lab)

A continuation of ENGL 0347. Designed to help non-native speakers to improve writing skills before taking ENGL 1301. Concentrated interdisciplinary writing practice and vocabulary study to prepare students for freshman composition, ENGL 1301, and other academic courses.

ENGL 1301 Composition I

Prerequisite: Prerequisites: Must be placed into college-level reading and college-level writing. Credit: 3 (3 lecture)

A course devoted to improving the student's writing and critical reading. Writing essays for a variety of purposes from personal to academic, including the introduction to argumentation, critical analysis, and the use of sources. Core Curriculum Course.

ENGL 1302 Composition II

Prerequisite: Composition 1301 or satisfactory score on the CLEP Exam; Credit: 3 (3 lecture)

A more extensive study of the skills introduced in ENGL 1301 with an emphasis on critical thinking, research and documentation techniques, and literary and rhetorical analysis. Core Curriculum Course.

ENGL 2307 An Introduction to Creative Writing

Prerequisite: ENGL 1301 or permission of Department Chair

Credit: 3 (3 lecture)

A course designed to introduce the student to the forms, strategies, and techniques involved in creative writing. The student may be given a series of directed assignments which may be critiqued in class.

Course Descriptions

ENGL 2308 Creative Writing II
Prerequisite: ENGL 2307
Credit: 3 (3 lecture)
A course designed to build on the foundations developed in ENGL 2307. Students are encouraged to work on creative projects with the guidance of instructors which may be critiqued in class.

ENGL 2311 Technical and Industrial Correspondence and Report Writing
Prerequisite: ENGL 1301
Credit: 3 (3 lecture)
Studies situational analysis, data analysis, and presentation of technical and industrial project development through letters and reports. Practices precise audience identification, including product and process specification and presentation, safety reporting, and governmental compliance and proposal writing. Includes periodic and progress and other forms of reporting and related correspondence, plus use of form and extended reporting.

ENGL 2322 British Literature: Beginnings to Neo-Classical
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
A critical study of major British writers from the Anglo-Saxon period through the eighteenth century. Students may take ENGL 2322 and ENGL 2323 in any order. Core Curriculum Course.

ENGL 2323 British Literature: Romanticism to Present
Prerequisite: ENGL 1302
Credit 3 (3 lecture)
A critical study of major British writers of the nineteenth and twentieth centuries. Students may take ENGL 2322 and ENGL 2323 in any order. Core Curriculum Course.

ENGL 2327 Early American Literature
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
A critical study of major American writers from the colonial period to 1865. Students may take ENGL 2327 and ENGL 2328 in any order. Core Curriculum Course.

ENGL 2328 American Literature since the Civil War
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
A critical study of major American writers from 1865 to the present. Students may take ENGL 2327 and ENGL 2328 in any order. Core Curriculum Course.

ENGL 2332 Literature of the Western World: Ancient to Renaissance
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
A critical study of major Western writers from antiquity through the Renaissance. Students may take ENGL 2332 and ENGL 2333 in any order. Core Curriculum Course.

ENGL 2333 Literature of the Western World: Neo-Classical to Present
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
A critical study of major Western writers from the Neoclassical period to present. Students may take ENGL 2332 and ENGL 2333 in any order. Core Curriculum Course.

ENGL 2334 The Bible as Literature: The Old Testament
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
Survey of the Old Testament as a literary work. Examination of representative portions of the Old Testament. Emphasis upon the literary characteristics and the cultural and historical contexts of the various books of the Old Testament. Students may take ENGL 2334 and ENGL 2335 in any order. Core Curriculum Course.

ENGL 2335 The Bible as Literature: The New Testament
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
Survey of the New Testament as a literary work. Examination of representative portions of the New Testament. Emphasis upon the literary characteristics and the cultural and historical contexts of the various books of the New Testament. Students may take ENGL 2334 and ENGL 2335 in any order. Core Curriculum Course.

ENGL 2336 Introduction to Multicultural Literature
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
This course is a survey of multicultural literature written by a diverse group of contemporary writers. Students will read selections from fiction, nonfiction, poetry, and drama and will analyze these works through class discussions and written assignments. Core Curriculum Course.

ENGL 2341 Literature and Film
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
An introduction to film form and its relationship to literary form. Students will read poems, novels, and essays and view experimental feature and documentary films. Discussion and papers will center on the parallel influence and development of form in both mediums. Core Curriculum Course.

ENGL 2342 Introduction to Fiction
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
An introductory study of short stories, novellas, and novels with emphasis upon understanding the vocabulary of literary analysis and applying it to fiction. Core Curriculum Course.

ENGL 2343 Introduction to Dramatic Literature
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
An introductory study of representative plays by ancient, medieval, classical, nineteenth-century and modern playwrights. Core Curriculum Course.

ENGL 2353 Women in Literature
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
A comprehensive historical overview of the female literary tradition in English from the Middle Ages to the twentieth century. A critical study of how women have responded to culture and society, personal relationships, and their inner selves through a variety of literary genres. Core Curriculum Course.

ENGL 2374 Introduction to Poetry
Prerequisite: ENGL 1302
Credit: 3 (3 lecture)
A critical study of poetry as a genre. The course introduces the English/American tradition of poetry in the context of the Western European and other traditions from around the world in translation. The analysis stems from the elements of poetry and poetry's importance to culture, both popular and high. Core Curriculum Course.

ENGL 2389 Technical Writing Cooperative Education
Prerequisites: ENGL 1301, minimal GPA of 2.5 overall and/or approval of the instructor or department chair; Must be placed into college-level reading and college-level writing.
Credit: 3 (3 lecture, minimum 20 hours career-related work experience per week)
A cooperative study effort integrating classroom study with work experience that enables students to learn more about organizational

functions. Students also have the opportunity to learn about occupational roles in their fields as their supervising employers cooperate with the College to insure a blend of work and study.

ENGR 1201 Introduction to Engineering

Credit: 2 (2 lecture)

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

ENGR 2301 Engineering Statics

Prerequisites: PHYS 2425 and MATH 2414

Credit: 3 (3 lecture, 1 lab)

Composition and resolution of forces, free body diagrams, analysis of forces acting on structures and machines, friction, centroids, and moments of inertia.

ENGR 2302 Engineering Dynamics

Prerequisite: ENGR 2301

Credit: 3 (3 lecture, 1 lab)

Dynamics of rid bodies, force-mass acceleration, work-energy, impulse momentum and introduction of mechanical vibrations.

ENGR 2304 Computer Programming for Engineers

Prerequisite: MATH 2413. Recommended co-enrollment in MATH 2414.

Credit: 3 (2 lecture, 2 lab)

Course designed for students who intend to obtain a degree in an engineering discipline. Course covers problem solving, algorithm development for advanced topics in engineering and mathematics

ENGR 2332 Engineering Mechanics of Materials

Prerequisites: MATH 2414 and ENGR 2302

Credit: 3 (3 lecture)

Concepts of stresses and strains, engineering properties of materials including thin-walled pressure vessels, torsional and flexural members, shear, moment, equation of elastic curve, deflection of members, combined loadings, column behavior.

ENTC 1301 Robotics I

Prerequisite: Department Approval

Credit: 3 (3 lecture)

An introduction to Robots/Automation. Topics include history, terminology, classification of robots, basic components, control systems, AC and hydraulic servomechanisms, programming, sensors, types of drive, end-of-arm tooling, end effectors, safety and design procedures.

ENTC 1343 Statics

Credit: 3 (3 lecture)

A study of the composition and resolution of forces and the equilibrium of forces acting on structures. Includes the concepts of friction, moments, couples, centroids, and moment of inertia.

ENTC 1391 Special Topics in Engineering Technology, General

Prerequisite: Department Approval

Credit: 3 (3 lecture)

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.

ENTC 1423 Strength of Materials

Credit: 4 (3 lecture, 3 lab)

Study of the relationship between externally applied forces and internally induced stresses and the resulting deformations in structural members. The student will identify the principle behind moments of interim and explain the relationship between that principle and the shape's cross-sectional geometry and reference axis; and calculate the torsional shearing stress on a solid round shaft subjected to various torques and horsepower requirements.

ENTC 2381 Cooperative Education - Engineering Technology/Technician, General

Prerequisite: Department Approval

Credit: 3 (1 lecture, 20 lab)

Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.

ENVR 1301 Environmental Science

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Study of natural resources, energy, pollution, and natural disasters. Core Curriculum Course. (Formerly GEOL 1305) Note: ENVR 1301 and ENVR 1401 cannot both be taken for credit toward certificate or degree requirements.

ENVR 1401 Environmental Science

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 3 lab)

Study of natural resources, energy, pollution, and natural disasters. Core Curriculum Course. Formerly GEOL 1305. Note: ENVR 1301 and ENVR 1401 cannot both be taken for credit toward certificate or degree requirements.

EPCT 1305 Environmental Regulations Overview

Credit: 3 (3 lecture)

An introduction to the history of the environmental movement, including identification of the regulations and standards that pertain to public health and air and water quality, the agencies that administer them, and the basic requirements for compliance with environmental regulations.

EPCT 1344 Environmental Sampling and Analysis

Credit: 3 (2 lecture, 4 lab)

Sampling protocol, procedures, quality control, preservation technology, and field analysis. Emphasis on analysis commonly performed by the field technician. The student will demonstrate proper selection of basic monitoring equipment and instrument calibration, sampling, field analysis, and preservation procedures; representative sampling methods; and prepare and evaluate documentation associated with sampling and field analysis.

EPCT 1380 Cooperative Education - Environmental Engineering Technology/ Environmental Technology

Credit: 3 (1 lecture, 20 lab)

Prerequisite: Department Approval

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

EPCT 1427 Water Treatment and Operations

Credit: 4 (3 lecture, 3 lab)

Introduction to the information and operational skills needed for water treatment plants.

EPCT 1428 Basic Wastewater Operations

Credit: 4 (3 lecture, 3 lab)

Introduction to the information and operational skills needed for water treatment plants.

Course Descriptions

EPCT 1492 Special Topics in Water Quality and Wastewater Treatment Technology/Technician
Prerequisite: EPCT 2441
Credit: 4 (3 lecture, 3 lab)
This course covers knowledge and skills in the planning, operation, preventive maintenance, and reporting of water and wastewater equipment. Included are positive displacement and centrifugal pumping instrumentation, valve and sluice gates, corrosion control, lubrication, maintenance, record keeping, reporting methods and operator safety.

EPCT 2212 Water Rules and Regulations
Prerequisite: EPCT 1427
Credit: 2 (2 lecture)
Discussion of local, state, and national rules and regulations relevant to water. Chemical and microbiological analysis for nonstandard water and wastewater samples.

EPCT 2403 Surface and Groundwater Collection
Prerequisite: EPCT 1427
Credit: 4 (3 lecture, 3 lab)
In-depth study of operations and maintenance procedures for surface and ground water collection.

EPCT 2413 Wastewater Collections
Prerequisite: EPCT 1427
Credit: 4 (3 lecture, 3 lab)
Basic concepts in operation and maintenance of collection systems.

EPCT 2414 Wastewater Chemistry
Prerequisite: EPCT 1427
Credit: 4 (3 lecture, 3 lab)
Basic techniques for sampling and chemical and microbiological analysis of water.

EPCT 2441 Wastewater Treatment
Prerequisite: EPCT 1428
Credit: 4 (3 lecture, 3 lab)
Advance study of the theory of operations and maintenance of wastewater treatment.

EPCT 2442 Advanced Water and Wastewater Chemistry
Prerequisite: EPCT 2414 or EPCT 2415
Credit: 4 (lecture 3, lab 3)
Advanced chemical and microbiological analysis for nonstandard water and wastewater samples.

ESOL 0341 Beginning Conversation for Foreign Speakers
Corequisites: ESOL 0342, ESOL 0343, and ESOL 0344
Credit: 3 (3 lecture, 2 lab)
A course developing conversational skills in simple English with emphasis on vocabulary and grammatical structures used in day-to-day living. Vocabulary, pronunciation, simple sentence structure, and intonation patterns are stressed.

ESOL 0342 Beginning Reading for Foreign Speakers
Corequisites: ESOL 0341, ESOL 0343, and ESOL 0344
Credit: 3 (3 lecture, 2 lab)
An elementary course in reading English. Emphasis is placed on vocabulary building and reading skills including identifying main ideas and answering comprehension questions.

ESOL 0343 Beginning Writing
Corequisites: ESOL 0341, ESOL 0342, and ESOL 0344
Credit: 3 (3 lecture, 2 lab)
A course devoted to developing basic writing skills such as simple sentence structure and developing paragraphs.

ESOL 0344 Beginning Grammar for Foreign Speakers
Corequisites: ESOL 0341, ESOL 0342, and ESOL 0343
Credit: 3 (3 lecture, 2 lab)
An introduction to basic English grammar. Emphasis is placed on correct verb forms, parts of speech, sentence order, capitalization, and punctuation.

ESOL 0345 Intermediate Conversation for Foreign Speakers
Corequisites: ESOL 0346, ESOL 0347, and ESOL 0348
Credit: 3 (3 lecture, 2 lab)
A continuation of ESOL 0341. This course places emphasis on idiomatic speech, everyday vocabulary development, and listening comprehension.

ESOL 0346 Intermediate Reading for Foreign Speakers
Corequisites: ESOL 0345, ESOL 0347, and ESOL 0348
Credit: 3 (3 lecture, 2 lab)
A continuation of ESOL 0342. An intermediate course in reading academically oriented English. Emphasis is placed on expanding English vocabulary and developing reading skills such as identifying main ideas, separating fact from opinion, and organizing information.

ESOL 0347 Intermediate Writing for Foreign Speakers
Corequisites: ESOL 0345, ESOL 0346, and ESOL 0348
Credit: 3 (3 lecture, 2 lab)
A continuation of ESOL 0343. This course expands writing skills through writing simple and compound sentences. Students broaden their knowledge of paragraph organization and the importance of unity and coherence in the paragraph.

ESOL 0348 Intermediate Grammar for Foreign Speakers
Corequisites: ESOL 0345, ESOL 0346 and ESOL 0347
Credit: 3 (3 lecture, 2 lab)
A continuation of ESOL 0344. This course reviews the basic structures of English grammar and develops the production of complex English sentences.

ESOL 0349 Advanced Intermediate Conversation for Foreign Speakers
Corequisites: ESOL 0350, ESOL 0351 and ESOL 0352
Credit: 3 (3 lecture, 2 lab)
A continuation of ESOL 0345. This course is designed to further develop conversational skills by incorporating more complicated vocabulary and grammatical structures. Students are also required to present oral reports at various times during the semester.

ESOL 0350 Advanced Intermediate Reading for Foreign Speakers
Corequisites: ESOL 0349, ESOL 0351 and ESOL 0352
Credit: 3 (3 lecture, 2 lab)
A continuation of ESOL 0346. An advanced intermediate course in reading academically oriented English. This course further develops reading comprehension skills and expands vocabulary. Emphasis is on distinguishing main ideas from supporting details and drawing conclusions.

ESOL 0351 Advanced Intermediate Composition for Foreign Speakers
Corequisites: ESOL 0349, ESOL 0350 and ESOL 0352
Credit: 3 (3 lecture, 2 lab)
A continuation of ESOL 0347. This course concentrates on the development of writing skills, reviews the paragraph and its essential elements, and introduces the multi-paragraph essay.

ESOL 0352 Advanced Intermediate Grammar for Foreign Speakers

Corequisites: ESOL 0349, ESOL 0350 and ESOL 0351

Credit: 3 (3 lecture, 2 lab)

A continuation of ESOL 0348. This course provides a review of essential grammatical and structural features while introducing their finer points. Emphasis is placed on compound and complex sentence structures and is designed to lead students toward active mastery of the patterns and principles of formal written English.

ESOL 0353 Advanced Reading for Foreign Speakers

Corequisites: ESOL 0354, ESOL 0355 and ESOL 0356

Credit: 3 (3 lecture, 2 lab)

A continuation of ESOL 0350. An advanced course designed to develop reading and critical thinking skills for college-bound students. Reading skills are refined to guide students towards mastery of deduction, inference, and figurative language.

ESOL 0354 Advanced Composition for Foreign Speakers

Corequisites: ESOL 0353, ESOL 0355 and ESOL 0356

Credit: 3 (3 lecture, 2 lab)

A continuation of ESOL 0351. This course concentrates on elements of essay organization. Students are required to produce well-organized, well-substantiated essays.

ESOL 0355 Advanced Grammar for Foreign Speakers

Corequisites: ESOL 0353, ESOL 0354 and ESOL 0356

Credit: 3 (3 lecture, 2 lab)

A continuation of ESOL 0352. This course provides a review of both essential and finer points of the grammatical structural features of formal written English. Emphasis is placed on active production and error analysis of standard English.

ESOL 0356 Advanced Conversation for Foreign Speakers

Corequisites: ESOL 0353, ESOL 0354 and ESOL 0355

Credit: 3 (3 lecture, 2 lab)

A continuation of ESOL 0349. This course is designed to encourage students' use of high-level grammatical structures and vocabulary skills. Students are required to present an oral book report, an oral report of a personal, off-campus interview, and an oral research report.

ETWR 1371 Technical composition

Credit: 3 (3 lecture)

A study of the selection, organization, relevancy and logical sequencing of technological ideas and information. Includes a review of basic English grammar.

ETWR 1372 Technical Writing II

Prerequisite: ETWR 2301 or Department Approval

Credit: 3 (3 lecture)

A study of technical manual preparation for business and industry. Includes research methods, organizational skills, writing and presentation of printed and/or electronic technical manuals.

ETWR 1373 Online Documentation

Prerequisite: ARTC 1302, IMED 1316 and ETWR 2301 or Department Approval

Credit: 3 (2 lecture, 4 lab)

An exploration of electronic technical documentation in business and industry, including Web-based solutions and CD-ROM/DVD-ROM presentations. Uses industry standard computer software to produce end product.

ETWR 1374 Proposal Writing

Prerequisite: ETWR 2301 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Comprehensive study of the process of preparing effective proposals for business, education, and industry. Includes responding to requests for proposals, developing unsolicited proposals, researching and evaluating information for maximum benefit, developing strategies, writing persuasively, and presenting the written proposal orally.

ETWR 1391 Special Topics in English Technical Writing

Prerequisite: ETWR 2301 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Individual course may cover Proposal Writing, Technical Writing II, On-Line Documentation-FrameMaker or RoboHelp or The Interview Process.

ETWR 2301 Technical Writing

Prerequisite: ENGL 1301, ETWR 1371 or Department Approval

Credit: 3 (3 lecture, 0 lab)

Study of the principles, techniques, and skills needed for college level scientific, technical, and business writing.

FCEL 1302 Introduction to Fuel Cell Technology

Credit: 3 (2 lecture, 4 Lab)

Types of fuel cells and other alternative energy fields. Includes professional requirements of fuel cell technicians.

FCEL 2400 Fuel Cell Basic Operations and Maintenance

Credit: 3 (2 lecture, 4 Lab)

Fuel cell instruments and their terminology. Emphasizes fuel cell utilization in alternative energy applications. Includes methanol, solid oxide, phosphoric acid, and polymer type fuel cells.

FIRS 1203 Firefighter Agility and Fitness Preparation

Credit: 2 (1 lecture, 2 Lab)

Physical ability testing methods. Rigorous training in skills and techniques needed in typical fire department physical ability tests.

FIRS 1301 Fire Fighter Certification I

Credit: 3 (2 lecture, 4 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTUTUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTIOIN***

FIRS 1313 Fire Fighter Certification III

Prerequisite or Corequisite: FIRS 1407

Credit: 3 (2 lecture, 3 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTUTUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTIOIN***

FIRS 1319 Fire Fighter Certification IV

Prerequisite or Corequisite: FIRS 1313

Credit: 3 (2 lecture, 2 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTUTUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTIOIN***

Course Descriptions

FIRS 1329 Fire Fighter Certification VI

Prerequisite or Corequisite: FIRS 1423

Credit: 3 (2 lecture, 3 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, V, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTUTUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTIOIN***

FIRS 1407 Fire Fighter Certification II

Prerequisite or Corequisite: FIRS 1301

Credit: 4 (3 lecture, 4 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTUTUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTIOIN***

FIRS 1423 Fire Fighter Certification V

Prerequisite or Corequisite: FIRS 1319

Credit: 4 (3 lecture, 2 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTUTUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTIOIN***

FIRS 1433 Fire Fighter Certification VII

Prerequisite or Corequisite: FIRS 1329

Credit: 4 (2 lecture, 6 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, V, and VI to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTUTUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTIOIN***

FIRT 1202 Plan Examiner I

Credit: 2 (2 lecture)

Examination of plans submitted for approval by businesses, industry, or other regulated entities. Includes applicable codes and/or standards that meet certification requirements of the Texas Commission on Fire Protection.

FIRT 1303 Fire and Arson Investigation I

Credit: 3 (3 lecture)

Basic fire and arson investigation practices. Emphasis on fire behavior principles related to fire cause and origin determination.

FIRT 1305 Public Education Programs

Credit: 3 (3 lecture)

Preparation of fire fighters and fire officers to develop public fire safety awareness. Emphasis on implementation of fire and public safety programs in an effort to reduce the loss of life.

FIRT 1307 Fire Prevention Codes and Inspections

Credit: 3 (3 lecture)

Local building and fire prevention codes. Fire prevention inspections, practices, and procedures.

FIRT 1309 Fire Administration I

Credit: 3 (3 lecture)

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 1311 Fire Service Hydraulics

Credit: 3 (3 lecture)

The use of water in fire protection. Application of hydraulic principles to analyze and solve water supply problems.

FIRT 1315 Hazardou Materials I

Credit: 3 (3 lecture)

Study of the chemical characteristics and behavior The chemical characteristics and behavior of various materials. Storage, transportation, handling hazardous emergency situations, and the most effective methods of hazard mitigation.

FIRT 1319 Fire Fighter Health and Safety

Credit: 3 (3 lecture)

Firefighter occupational safety and health in emergency and non-emergency situations

FIRT 1327 Building Construction in the Fire Service

Credit: 3 (3 lecture)

Components of building construction that relate to life safety. Includes relationship of construction elements and building design impacting fire spread in structures.

FIRT 1329 Building Codes and Construction

Credit: 3 (3 lecture)

Examination of building codes and requirements, construction types, and building materials. Includes walls, floorings, foundations, and various roof types and the associated dangers of each.

FIRT 1338 Fire Protection Systems

Credit: 3 (3 lecture)

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 1340 Fire Inspector II

Prerequisite: FIRT 1408

Credit: 3 (2 lecture, 3 lab)

Fire inspection rules, procedures, and inspection practices to meet the Texas Commission on Fire Protection requirements for Fire Inspector II.

FIRT 1345 Hazardous Materials II

Credit: 3 (3 lecture)

Mitigation practices and techniques to effectively control hazardous material spills and leaks.

FIRT 1347 Industrial Fire Protection

Credit: 3 (3 lecture)

Industrial emergency response teams and specific needs related to hazards in business and industrial facilities.

FIRT 1349 Fire Administration II

Credit: 3 (3 lecture)

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.

FIRT 1391 Special Topics in re Protection and Safety Technology/Technician

Prerequisite: Department Approval

Credit: 3 (3 lecture)

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.

FIRT 1392 Special Topics in Fire Services Administration

Credit: 3 (3 lecture)

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.

FIRT 1408 Fire Inspector I

Credit: 4 (2 lecture, 4 lab)

Fire inspection including rules, codes, and field inspection practices to meet certification requirements of the Texas Commission on Fire Protection.

FIRT 1433 Fire Chemistry I

Credit: 4 (2 lecture, 4 lab)

Chemical nature and properties of inorganic compounds as related to the fire service. Fundamental laws of chemistry, states of matter, gas laws, chemical bonding, and thermodynamics.

FIRT 2305 Fire Instructor I

Prerequisite: FIRS 1433 or proof of Firefighter II level certification

Credit: 3 (3 lecture, 1 lab)

Preparation of fire and emergency services personnel to deliver instruction from a prepared lesson plan. Includes the use of instructional aids and evaluation instruments to meet the Texas Commission on Fire Protection requirements for Fire Instructor I certification.

FIRT 2307 Fire Instructor II

Prerequisite: FIRT 2305, or proof of Fire Instructor I certification

Credit: 3 (3 lecture, 1 lab)

Development of individual lesson plans for a specific topic including learning objectives, instructional aids, and evaluation instruments. Includes techniques for supervision and coordination of activities of other instructors to meet Texas Commission on Fire Protection requirements for Fire Instructor II certification.

FIRT 2309 Fire Fighting Strategies and Tactics I

Credit: 3 (3 lecture)

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.

FIRT 2333 Fire & Arson Investigation II

Credit: 3 (3 lecture)

Fire Investigation techniques and defense of findings in a court room setting.

FIRT 2351 Company Fire Officer

Credit: 3 (3 lecture)

A capstone course covering fire ground operations and supervisory practices. Includes performance evaluation of incident commander, safety officer, public information officer, and shift supervisor duties.

FIRT 2380 Cooperative Education Fire Protection and Safety Technology/ Technician

Prerequisite: 15 semester hours of FIRT/FIRS and Department Approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

FIRT 2419 Fire Chemistry II

Credit: 4 (2 lecture, 4 lab)

Chemical compounds related to the fire service. Includes effective selection of extinguishing agents and method of application.

FIRT 2459 Fire Instructor III

Prerequisite: FIRT 2307, or proof of the Fire Instructor II Certification

Credit: 4 (3 lecture, 2 lab)

Development of comprehensive training curriculum and programs. Includes organization of needs analysis and development of training goals and implementation strategies to meet Texas Commission on Fire Protection requirements for Fire Instructor III.

FITT 1301 Fitness and Exercise Testing

Prerequisite: FITT 2313

Credit: 3 (2 lecture, 2 lab)

Techniques for conducting physical fitness assessments including tests of cardiorespiratory fitness, muscular strength and endurance, joint flexibility, body composition, and pulmonary capacity. Includes fitness equipment use and maintenance. Emphasis on safety guidelines and precautions. (Fall semester only)

FITT 1303 Fitness Event Planning and Promotion

Prerequisite: FITT 2313

Credit: 3 (3 lecture)

Practical aspects of developing and scheduling group exercise fitness classes. Includes recreational activities, competitive events, and promotion of exercise and non-exercise activities. Emphasis on the design of safe, enjoyable activities. (Fall semester only)

FITT 2311 Prevention and Care of Exercise Injury

Prerequisite: FITT 2313 and PHED 1150

Credit: 3 (3 lecture)

Overview of design methods for exercise settings and programs for injury prevention. Includes the use of safe physical conditioning techniques, current exercise fads and myths that promote injury, methods for injury recognition and evaluation, on-site care of exercise injuries, and emergency procedures. (Spring semester only)

FITT 2313 Exercise Science

Credit: 3 (3 lecture)

A survey of scientific principles, methodologies, and research as applied to exercise and physical fitness. Emphasis on physiological responses and adaptations to exercise. Topics include basic elements of kinesiology, biomechanics, motor learning, and the physical fitness industry. (Fall semester only)

FITT 2333 Fitness Industry Operations and Technology

Prerequisite: FITT 2313

Credit: 3 (3 lecture)

A survey of practical aspects of the physical fitness industry. Emphasis on equipment, cost analysis, program marketing, legal issues, policy formation, budgetary planning, computer software applications, and current industry trends. (Spring semester only)

FITT 2364 Practicum Field Experience– Health and Physicial Education, General

Prerequisites: BIOL 2401, FITT 1301, 2311, 2313, 2409, Department Chair approval required, grade of C or better in all prerequisites

Credit: 3 (21 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

FITT 2409 Theory of Exercise Program Design and Instruction
Prerequisite: FITT 1301, 2313

Credit: 4 (3 lecture, 2 lab)

The study of health-related components of physical fitness including cardiorespiratory endurance, muscular strength, and muscular endurance. Topics include the theoretical basis underlying physical fitness: instructional techniques for fitness development; and methods for leading an exercise session, including design, biomechanics, instruction, and evaluation. (Spring semester only)

FLMC 1300 Production Management

Prerequisite: RTVB 1421

Credit: 3 (2 lecture, 4 lab)

Managing a film/video production from the "business end." Emphasizes analysis of scripts and treatments to determine production costs, crewing requirements, location needs, equipment rentals, and associated production costs. Includes dealing with production personnel and unions, budgeting, location scouting, permitting, dealing with "civilians" on the set, handling security and insurance issues, handling transportation issues, managing set catering and safety, disbursing funds, documenting expenditures, handling clearance license fees, and managing other business issues. Also covers developing

detailed budgets for analyzing scripts by using costs researched in the local area.

FLMC 1304 Lighting for Film and Video

Prerequisite: RTVB 2437

Credit: 3 (2 lecture, 4 lab)

Lighting techniques for 16mm film or video production. (This class demonstrates advanced lighting techniques for 16mm film and video productions. Using a variety of lab projects and location settings, students will use lights, filters, in-camera special effects and mood setting techniques to enhance shot composition and camera movement. Topics also include operating film cameras, light meters and selecting film stock. Students are required to attend additional lab hours outside of class.)

FLMC 2308 Film Business and Marketing

Prerequisite: MUSB 2355 AND FLMC 1300

Credit: 3 (3 lecture)

The fundamentals of budgeting, financial records, and the distribution and marketing of films. (The course will introduce the fundamentals of budgeting, financial records, and the distribution of films. Starting with a brief historical review of the American film industry, the course will describe the major film corporations and their subsidiaries and the rise of the independent film industry. Additional topics include basic accounting issues, marketing concepts, distribution, advertising, the Internet, publicity, finding a distribution partner, negotiation tactics and strategies, and establishing a 'paper trail' for financial transactions.)

FLMC 2330 Audio Post Production

Prerequisite: RTVB 2437 and RTVB 2430

Credit: 3 (2 lecture, 4 lab)

The technology, creative application and requirements for producing audio soundtracks for film and video. (This course explores the technology, creative application and requirements for producing audio soundtracks for film and video projects. Topics include time code, synchronization, mixing, Foley, dialog replacement, sound effects and location sound. The students will work on computerized workstations to produce finished audio tracks for various projects. Students are required to attend additional lab hours outside of class.)

FLMC 2333 Cinematography

Prerequisite: FLMC 1304

Credit: 3 (2 lecture, 4 lab)

Theoretical elements and practical applications of cinematography. (This class teaches theoretical elements and practical application of cinematography. While learning techniques of film production, students study historical and contemporary trends and styles. Theoretical topics include differences in film stocks, exposure, color theory and filters. Professional techniques that alter an image's character are demonstrated and discussed. Practical tests and scenes are shot using color and black and white film stocks. Students are required to attend additional lab hours outside of class.)

FLMC 2334 Directing for Film or Video

Prerequisite: FLMC 1300

Credit: 3 (2 lecture, 4 lab)

Directing to lead a production team. (This course teaches the craft of directing to students who aspire to lead a production team. By analyzing the work of classic and contemporary directors, the class investigates the art and language of filmmaking. Topics include framing and composition, camera angles, camera movement, blocking of actors, visualizing action, and creating a sequence, script breakdown, and techniques for establishing mood, character, and conflict.)

FLMC 2335 Screenwriting for Features, Shorts and Documentaries

Prerequisite: RTVB 1429

Credit: 3 (2 lecture, 4 lab)

Screenwriting for the principle genres of film. (This class emphasizes screenwriting for the principle genres of film. Students will create treatments from dramatic concepts, turn these treatments into screenplays and complete full shooting scripts by the course's end. Topics include scriptwriting, formatting conventions and structural analysis of comedies, dramas, documentaries and short films. At the conclusion of the course students will submit an original script to a scriptwriting contest. Students are required to attend additional lab hours outside of class.)

FLMC 2336 Production Development/ Producing

Prerequisite: RTVB 2437

Credit: 3 (2 lecture, 4 lab)

Preproduction process. Includes resource acquisition and allocation and production structure. (During this class the student will address three primary questions posed when developing an idea for a film: What are you going to film? How are you going to film it? How are you going to structure the production? This class will teach students how to explore these questions fully before production begins. Class discussions, student projects and instructor analysis will emphasize the pre-production process: storyboarding shot lists, scheduling, location scouting, stock footage and budgeting. The class will also address design and esthetic decisions in costuming, makeup and set design. Students are required to attend additional lab hours outside of class.)

FLMC 2342 Film Editing and Sound Synchronization

Prerequisite or Corequisite: RTVB 2430

Credit: 3 (2 lecture, 4 lab)

Design and theory of film editing. Addresses the different phases of film post-production as a project evolves from raw footage to a final release print. Includes editing, preparing film for the lab, setting up opticals, making and shooting titles, hot splicing, sound track dubbing, and obtaining a final release print. Also may include special effects and sync vs. non-sync sound.

FLMC 2344 Advanced Film and Video Editing

Prerequisite: RTVB 2430

Credit: 3 (2 lecture, 4 lab)

Exploration of the creative possibilities of non-linear film and video editing. Includes editing aesthetics, titles, graphic design, compositing, and special effects.

FLMC 2380 Cooperative Education/ Cinematography and Film/Video Production

Prerequisite: FLMC 1304, RTVB 2437, and Department Approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

FMKT 1301 Floral Design

Credit: 3 (3 lecture)

Principles of floral art with an emphasis on commercial design. Topics include basic design styles and color harmonies; identification, use, and care of processing of cut flowers and foliages; mechanical aids and containers; personal flowers; holiday designs; and plant identification and care.

FMKT 2331 Advanced Floral Design

Credit: 3 (2 lecture, 2 lab)

An in-depth coverage of advanced floral design practices for the retail floral industry. Topics include contemporary floral arrangement styles and trends.

FORE 1314 Dendrology

Credit: 3 (2 lecture, 2 lab)

Taxonomy, identification and silvical features of the important timber and understory species of North America (formerly AGRI 2335).

FORE 2309 Forest Ecology

Credit: 3 (2 lecture, 2 lab)

Tree selection and planting to fit climatic, space and edaphic conditions; diagnosing tree abnormalities and practicing intensive tree care. Frequent fieldwork and demonstrations (formerly AGRI 2336).

FREN 1300 Beginning French Conversation I

Credit: 3 (3 lecture)

An introductory French course that emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than French 1411. It is highly recommended for students without previous experience in the French language. This course is not open to students whose first language is French. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

FREN 1310 Beginning French Conversation II

Prerequisite: FREN 1300 or equivalent

Credit: 3 (3 lecture)

Continuation of FREN 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of French following this course must take FREN 1411.

FREN 1411 Beginning French I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Introduction to the French language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

FREN 1412 Beginning French II

Prerequisites: FREN 1411 or satisfactory score on an advanced placement examination or at least two years of high school French within the last two years; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Continuation of FREN 1411. Further development of listening comprehension, speaking, reading and writing skills and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

FREN 2303 Readings in French Literature I

Prerequisite: FREN 2312 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

An introduction to French poetry, prose and drama with selections drawn mainly from the nineteenth and twentieth centuries. May include some writings from French-speaking countries outside France. Conducted in French. Core Curriculum Course.

FREN 2304 Readings in French Literature II

Prerequisite: FREN 2312 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Selections of poetry, prose and drama in French with special emphasis on writers from French-speaking countries outside France. Conducted in French. Core Curriculum Course.

FREN 2306 Intermediate Conversational French

Prerequisite: FREN 1411; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Refinement of conversational skills through practice of idiomatic usage and discussion of contemporary issues and/or current events.

FREN 2311 Intermediate French I

Prerequisite: FREN 1412 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning French. Introduction of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in French. Core Curriculum Course.

FREN 2312 Intermediate French II

Prerequisite: FREN 2311 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Continuation of FREN 2311, but with special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in French. Core Curriculum Course.

FSHD 1191 Special Topics in Fashion Design and Illustration

Credit: 1 (1 lecture)

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.

FSHD 1233 Fashion Study Tour

Credit: 2 (2 lecture)

A course which combines the study of fashion with travel. Exploration of fashion, art, architecture, textiles, costume, business, and cultural activities in major art and fashion cities. Examination of the most current work in the industry from a global perspective. This course was designed to be repeated multiple times to improve student proficiency.

FSHD 1235 Millinery

Credit: 2 (2 lecture, 1 lab)

A study of the basic skills and methods used to create hats. An application of the techniques used to design and produce hats for fashion, theater, historic reproduction and educational instruction purposes.

FSHD 1291 Special Topics in Fashion Design and Illustration

Credit: 2 (2 lecture)

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.

FSHD 1302 Introduction to Fashion

Credit: 3 (3 lecture)

Survey of the world of fashion businesses. Introduction to the creation and merchandising of fashion through the study of fashion vocabulary, the fashion process, fashion publications and career opportunities.

FSHD 1308 Fashion Trends

Credit: 3 (3 lecture)

A study of the effects of Eastern and Western cultures on the development of fashion. Examination of the relationship of social, psychological, economic, demographic and life-style trends to fashion trends.

FSHD 1311 Fashion History

Credit: 3 (3 lecture)

Course Descriptions

Survey of the evolution of fashion change, traced through garment development from ancient times to present day. A study of customs and silhouettes of each historical period and their modern day adaptations. Examination of twentieth century fashion designers.

FSHD 1313 Art for Fashion

Credit: 3 (3 lecture, 1 lab)

A study of the basic elements and principles of art applied to the design of clothing for the human form. Emphasis on the basic body types, clothing silhouettes, fabric weights, and the use of line movement, proportion and color to achieve flattering, marketable fashion design.

FSHD 1318 Apparel Computer Systems

Credit: 3 (3 lecture, 1 lab)

An introduction to apparel computer systems used in wholesale and retail fashion businesses. Applications demonstrated include computer-aided garment and textile design, fashion illustration, pattern making, pattern grading, marker making, newsletters, brochures, advertisements and catalogs.

FSHD 1322 Fashion Sketching

Credit: 3 (3 lecture, 1 lab)

Fundamentals of quick sketching to communicate design ideas. Instruction in drawing the male and female fashion figure. Emphasis on simple methods for making quick sketches to illustrate style information.

FSHD 1324 Ready-To-Wear Construction

Credit: 3 (2 lecture, 4 lab)

Fundamentals of mass production of apparel, focusing on the operation of industrial sewing and pressing equipment. Survey of materials selection and construction techniques used at all price levels of mass produced apparel. Introduction to industry seam allowances. Identification of differences between ready-to-wear and couture construction.

FSHD 1328 Flat Pattern Design I

Prerequisite: FSHD 1324

Credit: 3 (2 lecture, 3 lab)

An introduction to the creative design of clothing through the flat pattern method. General principles of pattern making using the basic five-piece dress sloper. A study of dart manipulation, slashing and spreading the pattern and contouring sew lines.

FSHD 1332 Custom Patterns

Prerequisites: FSHD 1328 and FSHD 2306

Credit: 3 (2 lecture, 3 lab)

Skill development in taking body measurements. Instruction in developing custom fittings for customized patterns. In depth coverage of the process of transferring a custom body fitted canvas to a basic dress form and padding it for custom sizing.

FSHD 1333 Fashion Study Tour

Credit: 3 (3 lecture)

A course which combines the study of fashion with travel. Exploration of fashion, art, architecture, textiles, costume, business, and cultural activities in major art and fashion cities. Examination of the most current work in the industry from a global perspective. This course was designed to be repeated multiple times to improve student proficiency.

FSHD 1351 Design Construction Techniques

Prerequisite: FSHD 1324

Credit: 3 (2 lecture, 4 lab)

A continuation of Ready-to-Wear Construction with emphasis on design details. Instruction in basic manipulation of a commercial pattern to create individual design details, dressmaking and fully lined unstructured garments in intermediate level fabrics.

FSHD 1355 Flat Pattern Design II

Prerequisite: FSHD 1328

Credit: 3 (2 lecture, 3 lab)

A continuation of Flat Pattern Design I with emphasis on patterns for tailored garments. Instruction in creating a jacket sloper with a two piece suit sleeve to make patterns for a variety of jacket silhouettes. adding shoulder pad allowance, drafting patterns for jacket linings and interfacing pieces, lapel and collar variations and various pants shapes.

FSHD 1391 Special Topics in Fashion Design and Illustration

Credit: 3 (3 lecture)

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.

FSHD 2306 Draping

Prerequisite: FSHD 1324

Credit: 3 (2 lecture, 3 lab)

A study of three-dimensional fashion design conceptualizing by draping in muslin or fashion fabric directly on the dress form. Skill development in observing grain of fabric, identifying drapable fabrics and creating designs suitable for draping. Presentation of major fashion designers' draping techniques.

FSHD 2310 Fabric Design

Prerequisites: FSHD 1324, FSHN 1301

Credit: 3 (2 lecture, 3 lab)

Fundamentals of fabric design. Instruction in silk screen, batik, tie-dye, painting, resist dye, block print, stenciling and weaving. Skill development in fabric design and production suitable for fashion apparel.

FSHD 2312 Theatrical Costume Design

Prerequisite: DRAM 1310

Credit: 3 (2 lecture, 3 lab)

A study of garment design for the theater in which costumes are researched and designed for theatrical productions. Instruction in the effect of lighting and staging in relationship to costuming.

FSHD 2315 Bustier Construction

Credit: 3 (2 lecture, 2 lab)

Instruction in the skills and techniques for creating a boned bodice. Production of strapless bodices from fashion and theatrical sources through the pattern-making and construction process.

FSHD 2337 Couture Dressmaking

Prerequisite: FSHD 1351

Credit: 3 (2 lecture, 4 lab)

A study of advanced apparel construction addressing couture dressmaking techniques and the traditional highest-quality methods for planning, cutting, sewing and pressing garments. Instruction in designing and producing couture fashion garments in advanced level fabrics.

FSHD 2341 Pattern Grading

Prerequisite: FSHD 1328

Credit: 3 (3 lecture, 1 lab)

Instruction in sizing standard patterns larger and smaller for the mass production of apparel. A study of 1", 1-1/2", and 2" and S-M-L-XL grade rules and their applications. Skill development in grading basic and fashion patterns with the ruler, the grading machine, and the computer.

FSHD 2343 Fashion Collection Design

Prerequisites: FSHD 1351 and FSHD 1328

Credit: 3 (2 lecture, 3 lab)

Advanced concepts in designing a collection of marketable apparel. Instruction in developing a design work board for a specific target market and selecting the most marketable ideas for the collection. Projects in resource development, fabric selection, estimating wholesale costs and initial pattern and garment production.

FSHD 2344 Fashion Collection Production

Prerequisite: FSHD 2343

Credit: 3 (2 lecture, 3 lab)

A continuation of the Fashion Collection Design

course. Emphasis on the production, costing and marketing of a cohesive collection of fashion apparel. Instruction in completing production patterns for all collection garments.

FSHD 2388 Internship - Fashion/Apparel Design

Prerequisite: Department Approval

Credit: 3 (16 lab) (256 hours work experience)

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.

FSHN 1301 Textiles

Credit: 3 (3 lecture, 1 lab)

A general study of textiles with emphasis on factors that affect the hand, appearance and performance in clothing use. Examination of the properties of natural and man-made fibers, how yarn is formed, methods of production and the properties of a wide variety of fabrics. Application of textiles used in the apparel industry.

FSHN 1305 Apparel Alterations

Prerequisite: FSHD 1324

Credit: 3 (2 lecture, 3 lab)

Skill development in fitting, altering, conserving and restyling apparel for men, women and children. Preparation for fitting, alterations, conservation and restoration work for a retail store, dry cleaning establishment, wedding gown business or historical costume collection.

FSHN 1320 Fashion Selling

Credit: 3 (3 lecture)

Examination of selling techniques for fashion apparel and accessories in retail and wholesale settings. Identification of buying motives, sales psychology, customer approach and closure. Instruction in product analysis, building a regular clientele, developing a fashion vocabulary and training and motivating a sales staff.

FSHN 1329 Basic Men's Tailoring

Prerequisite: FSHD 1324

Credit: 3 (2 lecture, 3 lab)

An introduction to tailoring men's structured apparel including fundamentals of sewing machine operations, fabric preparation and cutting, machine and hand sewing techniques, and pressing proficiency including instruction in pattern and alterations, assembling men's jackets, vests and pants, and fitting and alterations procedures.

FSHN 2301 Fashion Promotion

Credit: 3 (3 lecture)

A survey of fashion direction, publicity and fashion event coordination. Emphasis on fashion show production from idea to runway, including theme development, stage/set design, choreography, music coordination, lighting, lineup, model fittings, rehearsal and press kit development.

FSHN 2303 Fashion Buying

Credit: 3 (3 lecture)

Fundamentals of fashion buying with instruction in planning, pricing, and purchasing retail fashion inventories. Identification of wholesale merchandise resources.

FSHN 2305 Fashion Retailing

Credit: 3 (3 lecture)

An overview of fashion retailing procedures used in various types of retail fashion companies. A study of profit and loss, pricing, markup, inventory control, shortages, forecasting, store organization, and events. Examination of the wide variety of job opportunities available in the retail fashion industry.

FSHN 2307 Fashion Advertising

Credit: 3 (3 lecture)

General principles and practices of fashion advertising and consumer directed communication. A study of persuasive media approaches for public relations induced publicity and advertising produced sales promotions.

FSHN 2309 Fashion Image

Credit: 3 (3 lecture)

Instruction in the techniques used to analyze the fashion image of individual clients. Emphasis on personal coloring, color harmonies, appropriate fabric textures, body proportion and silhouette, figure, facial and hair analysis, and wardrobe coordination. Study of fashion image consultant business practices and job qualifications.

FSHN 2320 Visual Merchandising

Credit: 3 (2 lecture, 3 lab)

Skill development in the creation of showroom or retail store window/interior displays that sell merchandise. Study of the basic techniques of store planning, mannequin dressing, alternate form design, and display space conceptualization and implementation.

FSHN 2388 Internship - Fashion Merchandising

Prerequisite: Department Approval

Credit: 3 (16 lab) (256 hours work experience)

Principles and practices in resume and cover letter 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.

GAME 1201 Computer Ethics

Prerequisite: Department Approval

Credit: 2 (2 lecture)

A study of ethical issues that apply to computer related professions, intellectual property and privacy issues, professional responsibility, and the effects of globalization. Emphasizes the practical application of computer ethics through case studies and current events in the game and simulation industry. (formerly GAME 1270)

GAME 1212 Game Theory

Prerequisite: Department Approval

Credit: 2 (1 lecture, 3 lab)

Game and simulation design. Application of design theories to production-based projects from the conceptual stage to a completed project. (formerly GAME 1271)

GAME 1302 Storyboarding

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

In-depth coverage of storyboarding for the development of games and simulations. Addresses pre-production preparation and creation of comprehensive design for a game or simulation including target audience analysis, purpose, goals and objectives, content outline, flow chart, and storyboard. (formerly GAME 1373)

GAME 1304 Level Design

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

Introduction to the tools and concepts used to create levels for games and simulations. Incorporates level design, architecture theory, concepts of critical path and flow, balancing, play testing, and storytelling. Includes utilization of toolsets from industry titles. (formerly GAME 1374)

GAME 1306 Design and Creation of Games

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

Introduction to game and simulation development. Includes analysis of existing applications and their play elements. In-depth coverage of the elements of the application and examination of social issues, genres, and trends. Also covers creation of design documents, investigation of why people play games, review of technological and cultural

history of electronic games, survey of the major innovators and historical figures of the industry, and examination of the trends and taboos that motivate game design. (formerly GAME 1370)

GAME 1314 Character Sculpting

Prerequisite: Department Approval

Credit: 3 (1 lecture, 6 lab)

Creation of original characters from the drawing stage to sculpting clay status. Explores a variety of poses using clay and aluminum armatures. (formerly GAME 1371)

GAME 1375 Principles of Game Concept Art

Prerequisite: Department Approval

Credit: 3 (2 lecture, 2 lab)

A study of traditional art techniques and its applications to game concept art.

GAME 2302 Mathematical Applications for Game Development

Prerequisites: Department Approval and MATH 1314

Corequisite: COSC 1437

Credit: 3 (2 lecture 4 lab)

Presents applications of mathematics and science in game and simulation programming. Includes the utilization of matrix and vector operations, kinematics, and Newtonian principles in games and simulations. Also covers code optimization. (formerly GAME 1372)

GAME 2332 Project Development I

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

Skill development in an original modification based on a current game engine. Includes management of version control; development of project timeliness; integration of sound, models, and animation; production of demos; and creation of original levels, characters, and content for a real-time multiplayer game. Applies skills learned in previous classes in a simulated real-world design team experience. (formerly GAME 2370)

GAME 2334 Project Development II

Prerequisites: Department Approval and GAME 2332

Credit: 3 (2 lecture, 4 lab)

Continuation of an original modification based on a current game engine with an emphasis on new content and radical changes in game play over the base game experience. Includes creation of original levels, characters, and content for a real-time multiplayer game applying skills learned in pervious classes. (formerly GAME 2375)

GAME 2336 Lighting, Shading and Texture

Prerequisites: ARTC 1345 and GAME 1306

Credit: 3 (2 lecture, 4 lab)

Lighting, shading, and texture painting for 3D models using digital painting techniques. Emphasizes lighting, shading, and texture creation of limited resolution to increase system performance for digital games and simulation training models. (formerly GAME 2373)

GAME 2341 Game Scripting

Prerequisite: Department Approval and COSC 1437

Credit: 3 (2 lecture, 4 lab)

Scripting languages with emphasis on game concepts and simulations. (formerly GAME 2372)

GAME 2342 Game Development Using C++

Prerequisites: Department Approval and COSC 1437

Credit: 3 (2 lecture, 4 lab)

Skill development in C++ programming for games and simulations. Examines real-world C++ development issues. (formerly GAME 2371)

GAME 2344 DirectX Programming

Prerequisite: GAME 2341

Credit: 3 (2 lecture, 4 lab)

Exploration of the advanced suite of multimedia application programming interfaces (API) built into the Microsoft Windows operating system. Includes fundamentals of Direct X's API that give multimedia applications access to advanced features of high-performance hardware such as 3D graphics acceleration chips and sound cards. Addresses control of low-level functions including 2D graphics acceleration; support for input devices such as joysticks, keyboards, and mice; and control of sound mixing and sound output. (formerly GAME 2374)

GAME 2378 Techniques of Game Art

Prerequisites: Department Approval

Credit: 3 (2 lecture, 4 lab)

A study of industry-used, game-art techniques and its applications of 3D game art assets.

GAME 2379 Portfolio Development

Prerequisites: Department Approval

Credit: 3 (3 lecture)

Design and manage an industry standard portfolio; includes techniques in self-promotion, resume writing, portfolio distribution systems, and interview techniques.

GAME 2386 Internship

Prerequisite: Department Approval

Credit: 3 (15 external lab)

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. (formerly GAME 2377)

GEOG 1301 Physical Geography

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Basic physical elements of geography, maps, weather and climate, and natural resources.

GEOG 1302 Cultural Geography

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A survey of the cultural diversity found on earth. Topics include population, language, religion, ethnicity, and popular culture, with a special focus on spatial attributes and expressions of culture. (This is a core curriculum course.)

GEOG 1303 World, Regional and Local Geography

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Study of major world regions with emphasis on prevailing conditions and developments. Including emerging conditions and trends, and awareness of diversity of ideas and practices to be found in these regions. Core Curriculum Course.

GEOG 2312 Economic Geography

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Analytical study of the historical development of particular economic distributions as they relate to social, cultural, political, and physical factors. Includes critical inquiry into the reasons for location of various types of economic activity, production, and marketing. Cross-listed with ECON 2311.

GEOL 1345 Introduction to Oceanography

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (2 lecture, 2 lab)

An introduction to the world's oceans, emphasizing the geological, physical, biological, chemical, and ecological aspects of the marine environment. Core Curriculum Course.

GEOL 1347 Meteorology

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

The study of basic principles of weather and climate and the pervasive effects of weather conditions on daily lives, commerce, agriculture, urban planning and other human activity. The course offers basic scientific theory with applications familiar to the student.

GEOL 1401 Earth Sciences I

Prerequisites: Must be placed into college level-reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Survey of physical geology, historical geology, and related sciences. Includes study of the physical nature of Earth and the physical processes acting upon and within the Earth. This course will also address the geological understanding of time,the history of life, and physical changes since the Earth's origin. This course is designed to meet the needs of education and non-science majors. GEOL 1401or GEOL 1402 can be taken in any order. Core Curriculum Course.

GEOL 1402 Earth Sciences II

Prerequisites: Must be placed into college level-reading or take (GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Survey of astronomy, meteorology, oceanography, and related sciences. Includes study of the planets and the stars, the world's oceans, the interactions between humans and Earth, and the basic principles of weather and climate. This course is designed to meet the needs of education and non-science majors. GEOL 1401or GEOL 1402 can be taken in any order. Core Curriculum Course.

GEOL 1403 Physical Geology

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Study of the nature of the earth, including the physical processes operating on and inside the earth. Laboratory includes the study of rocks, minerals, and topographic maps. Core Curriculum Course.

GEOL 1404 Historical Geology

Prerequisite: GEOL 1403; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 4 (3 lecture, 3 lab)

Study of the history of the earth, its life and geologic time. Laboratory includes the study of sedimentary rocks, fossils, and maps. Core Curriculum Course.

GERM 1300 Beginning German Conversation I

Credit: 3 (3 lecture)

An introductory German course which emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than German 1411. It is highly recommended for students without previous experience in the German language. This course is not open to students whose first language is German. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

GERM 1310 Beginning German Conversation II

Prerequisite: GERM 1300 or equivalent

Credit: 3 (3 lecture)

Continuation of GERM 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of German following this course must take GERM 1411.

GERM 1411 Beginning German I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Introduction to German language and culture. Development of basic skills in listening comprehension, speaking, reading, writing,and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

GERM 1412 Beginning German II

Prerequisites: GERM 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school German within the last two years; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Continuation of GERM 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

GERM 2311 Intermediate German I

Prerequisite: GERM 1412 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning German. Introduction of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in German. Core Curriculum Course.

GERM 2312 Intermediate German II

Prerequisite: GERM 2311 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Continuation of GERM 2311. Special emphasis on writing. Readings, discussions and compositions. Class conducted mainly in German. Core Curriculum Course.

GERS 1260 Clinical - Gerontology

Prerequisite: Department Approval

Credit: 2 (6 lab)

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.

GERS 1301 Introduction to Gerontology

Credit: 3 (3 lecture)

Overview of the social, psychological, and biological changes that accompany aging and an overview of the implications of these changes for the individual, as well as for the larger society.

GERS 1304 Long Term Care Activity Directing I

Credit: 3 (2 lecture, 4 lab)

Course Descriptions

Role of the activity director in long term health care facilities. Includes study of history, regulations, communications, advocacy, ethics, service delivery, and volunteer management. This course, when combined with "Long Term Care Activity Directing II" and "Practicum-Gerontology" meets the State requirements to be qualified as an activity director in Texas.

GERS 1307 Long Term Care Activity Directing II

Credit: 3 (2 lecture, 4 lab)

Activity directing in long term health care facilities. Includes assessment, care planning, documentation process, and evaluation of client needs. Also addresses program design and resources/funding. This course, when combined with "Long Term Care Activity Directing I" and "Practicum-Gerontology," meets the State requirements to be qualified as an activity director in Texas.

GERS 1391 Special Topics in Adult Development and Aging

Prerequisite: Department Approval

Credit: 3 (Varies)

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.

GISC 1401 Cartography and Geography in Geographical Information Systems (GIS) and Global Positioning Systems

Credit: 4 (3 lecture, 3 lab)

Prerequisites: GISC 1411 or Department Approval

Introduction to the principles of cartography and geography. Emphasis on global reference systems and the use of satellites for measurements and navigation.

GISC 1411 Introduction to Geographic Information Systems (GIS)

Credit: 4 (3 lecture, 3 lab)

Introduction to basic concepts of vector Geographic Information Systems (GIS) using several industry specific software programs including nomenclature of cartography and geography. ArcView and ArcGIS will be used in lab.

GISC 1421 Introduction to Raster-Based Geographic Information Systems (GIS)

Prerequisites: GISC 1411 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Instruction in GIS data sets including raster-based information such as images or photographs, acquisition of such data, and processing and merging with vector data.

GISC 1491 Special Topics in Cartography

Prerequisite: Department Approval

Credit: 4 (3 lecture, 3 lab)

Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

GISC 2364 Practicum (or Field experience)- Cartography

Prerequisite: Department Approval

Credit: 3 (21 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

GISC 2380 Cooperative Education - Cartography

Prerequisite: Department Approval

Credit: 3 (21 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

GISC 2401 Data Acquisition and Analysis in Geographic Information Systems (GIS)

Prerequisites: GISC 1401 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Study of the management of geographic information, system life cycles, and costs and benefits. Includes institutional issues such as data providers, data management, combination of attribute and graphical data, information storage and access, Texas and national standards for spatial data; and applications of GIS for data modeling and analysis.

GISC 2411 Geographic Information Systems (GIS) APPLICATIONS

Prerequisites: GISC 1401,1421, or Department Approval

Credit: 4 (3 lecture, 3 lab)

Application of GIS technology to real workplace applications from public and private sectors. Completion of Global Positioning Systems (GPS) fieldwork required for lab exercises.

GOVT 2301 American Government: National, State, and Local I

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

A study of theories of American democracy and other ideologies ,United States and Texas constitutions, federalism, state and local government, political economy, political socialization and public opinion, the media, interest groups, and political parties and elections. Core Curriculum Course.

GOVT 2302 American Government: National, State, and Local II

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

A study of the executive, legislative, and judicial branches of government at both the national and state levels; economic and regulatory policy; social policy; civil liberties and civil rights policy; and foreign policy. Core Curriculum Course.

GOVT 2304 Introduction to Political Science

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

An introduction to the history, scope, and methods of political science. Among the topics covered are the different conceptions of politics and science and the relationships between them, the major controversies over the possibility and shape of political science, and the different approaches employed in the study of politics. Core Curriculum Course.

GOVT 2389 Cooperative Legislative Internship

Prerequisite: Completion of GOVT 2301 or GOVT 2302 with a grade of

'B' or better, a grade

point average of at least 3.0, and the written recommendation of an HCC government instructor. ; Must be placed into college-level reading and college-level writing.

Credit: 3 (1 lecture, 16 lab)

An experiential-learning instruction program designed to integrate textbook and classroom knowledge with practical hands-on experience in an applied area of political science. Primary implementation of student activities will occur in pre-selected legislative institutions or other related governmental organizations.

GRPH 1207 Printshop Management

Credit: 2 (2 lecture)

Management of print shop operations, including techniques for supply sources, jobbers, estimating, pricing, and selling printing services. Topics include location, safety, stocking, and maintenance, determination of profit and the process of bidding and developing

plans for a printing plant and public relations and salesmanship skills.

GRPH 1305 Introduction to Graphic Arts and Printing

Credit: 3 (3 lecture)

Graphic arts industry, including the history of printing, techniques involved in the production and distribution of printed materials, the kinds of printing industries and printing terminology and identify career opportunities in graphics and printing fields.

GRPH 1359 Object-Oriented Computer Graphics

Corequisite: ARTC 1313 and ARTC 1305, or Department Approval

Credit: 3 (2 lecture, 4 lab)

Mastery of the tools and transformation options of an industry standard draw program to create complex illustrations and follow them through to the color output stage. Mastery in the use of basic elements of good layout and design principles and use the capabilities specific to vector (object oriented) drawing software to manipulate both text and graphics with emphasis on the use of bezier curves. Acquisition of images via scanning and the creative use of clip art is included.

GRPH 1393 Special Topics in Lithographer and Platemaker

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

GRPH 1409 Press Operations I

Credit: 4 (2 lecture, 6 lab)

Introduction to offset printing including knowledge and skills to operate a small offset press to print single color jobs. Emphasis on parts of the press and operation procedures, printing terminology, paper and ink type uses, make ready and cleanup.

GRPH 2382 Cooperative Education - Desktop Publishing Equipment Operator (Graphic Arts)

Credit: 3 (1 lecture/seminar and 20 hours a week employment)

An intermediate or advanced course with lecture and work-based instruction that helps students gain practical experience in the discipline, enhance skills, and integrate knowledge. Indirect supervision is provided by the work supervisor while the lecture is provided by the college faculty or by other individuals under the supervision of the educational institution. Cooperative education may be a paid or unpaid learning experience.

GRPH 2388 Internship - Graphic and Printing Equipment Operator

Credit: 3 (21 lab)

A basic, intermediate, or advanced type of non-health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Direct supervision is provided by the faculty or the work supervisor. An internship may be a paid or unpaid learning experience..

GUST 0100 Developmental Reading

Prerequisite: Department Chair approval

Credit: 1 (1 lecture)

An individualized curriculum for students whose test scores demonstrate high proficiency but do not meet state requirements for placement into core course work. This course will present a concentrated review of basic Reading and Vocabulary Skills. Department Chair approval is required.

GUST 0339 Introduction to Reading

Prerequisites: Must be placed into GUST 0339 (or higher) in reading.

Credit: 3 (3 lecture, 1 lab)

A basic reading course designed to improve students' overall reading skills. Emphasis is on reading comprehension, vocabulary development, study techniques, career planning and critical reading. Classroom instruction is enhanced by a variety of self-paced activities.

GUST 0340 Developmental Reading for Non-Native Speakers of English

Prerequisites: Satisfactory score on Celsa test

Credit: 3 (3 lecture, 1 lab)

A basic reading course for non-native English speakers designed to improve students' overall reading skills. Emphasis on reading comprehension, vocabulary development, study techniques, and critical reading. Classroom instruction is enhanced by a variety of self-paced activities. Recommended on the basis of CELSA test scores.

GUST 0341 Developmental Reading I

Prerequisites: Must be placed into GUST 0341 in reading or completion of GUST 0339 or 0340.

Credit: 3 (3 lecture, 1 lab)

College Reading I is designed to address the developmental reader's need for direct instruction in basic reading behaviors that are essential to the acquisition of knowledge in the content areas. Instruction is based on an interactive reading method with emphasis on learning to learn. These key skills include previewing chapters, selecting and organizing the information read and critical reading, making informed decisions about that information.

GUST 0342 Developmental Reading II

Prerequisites: Must be placed into GUST 0342 in reading or completion of GUST 0341.

Credit: 3 (3 lecture, 1 lab)

College Reading II is a continuation of reading skills introduced in GUST 0341. Stronger emphasis is on critical reading and thinking skills. The goal of GUST 0342 is to teach students to analyze materials thoughtfully, synthesize materials from various sources, and apply this information to their reading.

GUST 1270/0170 College and Career Planning

Prerequisite: Must be placed into GUST 0341 (or higher) in reading. Students below this reading level will be deferred from the Student Success course requirement until their reading level has improved.

This course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, retention of information, book analysis and comprehension techniques and test-taking skills. This course also incorporates modules that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment and decision-making, financial aid, tutoring and student support services, enabling the student to maximize the use of college resources. GUST 1270 and 0170 must be taken together as co-requisites.

HALT 1170 First Aid/CPR

Credit: 1 (2 lab)

Instruction in lifesaving skills of respiratory (lighting strikes persons on golf course) and cardiac emergencies, substance abuse, and instruction in first aid for injured persons.

HALT 1211 Shrubs, Vines and Groundcovers

Credit: 2 (1 lecture, 3 lab)

In-depth coverage of the shrubs, vines and groundcovers used in the horticulture industry. Topics include identification, characteristics, adaptation, cultural requirements, pest and disease problems, and use in the landscape.

HALT 1301 Principles of Horticulture

Credit: 3 (3 lecture)

An overview of the horticulture industry, plant science, terminology, classification, propagation, environmental responses,

Course Descriptions

and careers and opportunities in the field of horticulture.

HALT 1303 Herbaceous Plants

Credit: 3 (2 lecture, 2 lab)

An in-depth study of herbaceous plant material. Topics include practices and procedures used in the identification, growth, propagation, maintenance, and utilization of herbaceous plants in the horticulture industry.

HALT 1305 Horticultural Soils

Credit: 3 (2 lecture, 2 lab)

A study of the physical properties of soil including structure and texture. Topics include the origin and development of soils, the composition of a soil horizon, and the interrelationship between soil fertility and plants.

HALT 1307 Plant Diseases

Credit: 3 (2 lecture, 2 lab)

An overview of the factors causing plant diseases. Topics include physiological disorders, fungi, bacteria, viruses, nematodes, parasitic plants, nonpathogenic factors, and control methods.

HALT 1309 Interior Plants

Credit: 3 (2 lecture, 2 lab)

Instruction in the identification and classification of the plants used in home and commercial interior landscapes. Topics include design characteristics for interiorscapes and environmental requirements of the plants.

HALT 1319 Landscape Construction

Credit: 3 (2 lecture, 2 lab)

Exploration of landscape construction materials and methods of installation. Topics on soil preparation, including wood, concrete, masonry construction and landscape lighting including pools, spas, and general construction details.

HALT 1320 Horticulture Calculations

Credit: 3 (3 lecture)

Problem solving and use of formulas and calculations commonly used in the horticulture industry. Emphasis on mathematical, geometrical, financial, and chemical calculations.

HALT 1322 Landscape Design

Credit: 3 (2 lecture, 2 lab)

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 Turfgrass Science and Management

Credit: 3 (2 lecture, 2 lab)

In-depth coverage of various species of warm and cool season grasses including their uses, application, adaptability, environmental tolerances, anatomy, and physiological responses.

HALT 1327 Horticultural Equipment Management

Credit: 3 (2 lecture, 2 lab)

Instruction in identification and application of various types of powered equipment used in the horticulture industry. Presentation of functions, operations, troubleshooting techniques, and repair of equipment.

HALT 1333 Landscape Irrigation

Credit: 3 (2 lecture, 2 lab)

In-depth coverage of irrigation systems including equipment, design, performance, and maintenance. Topics include residential and commercial applications, troubleshooting, repair, and technological advances in irrigation systems.

HALT 1345 Golf/Sports Field/Park Management

Credit: 3 (2 lecture, 2 lab)

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 1351 Landscape Business Operations

Credit: 3 (3 lecture)

Instruction in the structure of the landscape business including cost estimation; organization; equipment needs; interpretation of financial reports; and material, labor, and equipment management. Emphasis on the types of landscape operations, marketing, legal forms, construction law, and safety.

HALT 1370 Golf Course Irrigation

Credit: 3 (2 lecture, 2 lab)

Prerequisites: BCIS 1401 or HALT 1322

In-depth coverage of irrigation systems including equipment, design, performance, and maintenance of golf courses.

HALT 1372 Golf Course Grounds Equipment and Shop Operations

Credit: 3 (2 lecture, 2 lab)

Instruction in identification and application of various types of powered equipment used in the golf course management industry. Presentation of functions, shop operations, troubleshooting techniques, and repair of equipment.

HALT 1373 Golf Course Design and Construction

Credit: 3 (2 lecture, 2 lab)

Exploration of golf course construction materials and the methods used for installation. Topics include site preparation, use of common construction materials; landscape lighting, water features, and general construction details.

HALT 1374 Golf Course Trees and Shrubs

Credit: 3 (2 lecture, 2 lab)

In-depth coverage of the trees, shrubs, and groundcovers used in the Gulf Coast golf course industry. Topics include identification, characteristics, adaptation, cultural requirements, pest and disease problems, and use in the landscape.

HALT 1382 Cooperative Education

Prerequisite: Department Approval

Credit: 3 (1 lecture/seminar and 20 hrs a week employment)

Career-related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.

HALT 1396 Special Topics in Nursery Operations and Management

Prerequisite: Department Approval

Credit: 3 (2 lec, 2 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

HALT 1398 Special Topics in Horticulture Services Operations and Management, Other

Prerequisite: Department Approval

Credit: 3 (2 lec, 2 lab)

Topics address recently identified current events, skills, knowledge's, 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.

HALT 2307 Horticulture Food Crops

Credit: 3 (2 lecture, 2 lab)

A study of commercial and home cultivated food crops including various vegetables, fruits, and nuts. Topics address planting, maintenance, harvest, and storage of the various crops.

HALT 2308 Greenhouse Management

Credit: 3 (2 lecture, 2 lab)

Fundamentals of greenhouse construction and operation. Topics include architectural styles, construction materials, environmental systems and controls, growing media, fertilizers, post harvest handing, marketing, and business management.

HALT 2312 Turfgrass Maintenance Management

Credit: 3 (3 lecture)

Instruction in common turf-grass cultural practices. Topics include calculation and application of materials and the operation and maintenance of equipment.

HALT 2314 Plant Propagation

Credit: 3 (2 lecture, 2 lab)

A study of the sexual and asexual propagation of plants used in horticulture. Topics include propagation by seeds, cuttings, grafting, budding, layering, division separation, and tissue culture, and environmental factors of propagation.

HALT 2318 Soil Fertility and Fertilizers

Credit: 3 (2 lecture, 2 lab)

An in-depth study of the chemistry, soil interaction, plant uptake, and utilization of essential plant nutrients. Topics include deficiency and toxicity symptoms, and the selection, application, and characteristics of fertilizer materials.

HALT 2320 Nursery Production and Management

Credit: 3 (2 lecture, 2 lab)

An overview of the procedures for establishing and operating a commercial nursery. Topics include site selection, structures, equipment, stock selection, production practices, harvesting, marketing, and management practices.

HALT 2321 Small Farming

Credit: 3 (2 lecture, 2 lab)

Instruction in small farming techniques with emphasis on horticulture science including comprehensive and profitable guidelines. Topics include herbs, fruits, nut and vegetable crops.

HALT 2323 Horticulture Pest Control

Credit: 3 (2 lecture, 2 lab)

Examination of federal, state, and local laws and regulations governing the control of horticultural pests. Topics include procedures, methods, safety requirements, integrated pest management (IPM) and chemical, natural, and biological controls.

HALT 2331 Advanced Landscape Design

Credit: 3 (2 lecture, 2 lab)

In-depth coverage of advanced practices in landscape planning for commercial and residential landscapes. Topics include advanced design analysis, architectural elements, space articulation, and land engineering concepts.

HAMG 1313 Front Office Procedures

Credit: 3 (3 lecture, 1 lab)

A study of the flow of activities and functions in today's lodging operation. Topics include a comparison of manual, machine assisted, and computer based methods for each front line function.

HAMG 1321 Introduction to Hospitality Industry

Credit: 3 (3 lecture)

Introduction to the elements of the hospitality industry.

HAMG 1324 Hospitality Human Resources Management

Credit: 3 (3 lecture)

A study of the principles and procedures of managing people in the hospitality workplace.

HAMG 1340 Hospitality Legal Issues

Credit: 3 (3 lecture)

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 Maintenance

Credit: 3 (2 lecture, 3 lab)

Demonstrates the working relationship in the lodging industry between housekeeping and maintenance.

HAMG 2307 Hospitality Marketing and Sales

Credit: 3 (3 lecture)

Identification of the core principles of marketing and their impact on the hospitality industry.

HAMG 2332 Hospitality Financial Management

Credit: 3 (3 lecture)

Methods and application of financial management within the hospitality industry. Primary emphasis on sales accountability, internal controls, and reports analysis.

HAMG 2337 Hospitality Facilities Management

Credit: 3 (3 lecture)

Identification of building systems, facilities management, security and safety procedures

HAMG 2380 Cooperative Education I – Hospitality Administration and Management

Prerequisite: 6 semester hours in HAMG or RSTO courses, approval of Co-op instructor

Corequisite: 20 hours or more a week of approved hotel or restaurant related employment

Credit: 3 (1 lecture, 20 hours work experience)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

HAMG 2381 Cooperative Education II – Hospitality Administration and Management

Prerequisite: HAMG 2380

Corequisite: 20 hours or more a week of approved hotel or restaurant related employment

Credit: 3 (1 lecture, 20 hours work experience)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

HART 1301 Basic Electricity for HVAC

Credit: 3 (2 lecture, 3 lab)

Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation.

HART 1303 A/C Control Principles

Prerequisite/Corequisite: HART 1301

Credit: 3 (2 lecture, 3 lab)

A basic study of HVAC and refrigeration controls; troubleshooting of control components; emphasis on use of wiring diagrams to analyze high and low voltage circuits; a review of Ohm's law as applied to air conditioning controls and circuits.

HART 1307 Refrigeration Principles

Credit: 3 (2 lecture, 3 lab)

An introduction to the refrigeration cycle, basic thermodynamics, heat transfer, temperature/ pressure relationship, safety, refrigeration containment, and refrigeration components.

Course Descriptions

HART 1310 HVAC Shop Practices and Tools

Credit: 3 (2 lecture, 3 lab)

Tools and instruments used in the HVAC industry. Includes proper application, use and care of these tools, and tubing and piping practices.

HART 1341 Residential Air Conditioning

Prerequisite/Corequisite: HART 1345

Credit: 3 (2 lecture, 3 lab)

A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems.

HART 1345 Gas and Electric Heating

Prerequisite/Corequisite: HART 1307

Credit: 3 (2 lecture, 3 lab)

A study of components, applications and installation of mechanical air conditioning systems including operating conditions, troubleshooting repair, and charging of air conditioning systems.

HART 1356 EPA Recovery Certification preparation

Credit: 3 (2 lecture, 3 lab)

Certification training for HVAC refrigerant recovery and recycling. Instruction will provide a review of EPA guidelines for refrigerant recovery and recycling during the installation, service, and repair of all HVAC and refrigeration systems.

HART 2302 Commercial Air Conditioning system design

Credit: 3 (2 lecture, 3 lab)

Advanced study in essential elements of commercial air conditioning contracting including duct systems design and/or material takeoff, weight estimating, equipment selection using manufacturer's catalog data, job cost estimating, scheduling, preparation of shop drawings and submittals.

HART 2331 Advanced Electricity

Prerequisite/Corequisite: HART 1303

Credit: 3 (2 lecture, 3 lab)

Advanced electrical instruction and skill building in installation and servicing of air conditioning and refrigeration equipment including detailed instruction in motors and power distribution, motors, motor controls, and application of solid state devices.

HART 2334 Advanced a/c Controls

Prerequisite/Corequisite: HART 1303

Credit: 3 (2 lecture, 3 lab)

Theory and application of electrical control devices, electromechanical controls, direct digital controls and/or pneumatic controls.

HART 2336 Air Conditioning Troubleshooting

Prerequisite/Corequisite: HART 2349

Credit: 3 (2 lecture, 3 lab)

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.

HART 2338 Air Conditioning Installation And Startup

Credit: 3 (2 lecture, 3 lab)

A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.

HART 2341 Commercial Air Conditioning

Prerequisite/Corequisite: HART 2342

Credit: 3 (2 lecture, 3 lab)

A study of components, applications, and installation of air conditioning systems with capacities of 25 tons or less.

HART 2342 Commercial Refrigeration

Prerequisite: HART 1307

Credit: 3 (2 lecture, 3 lab)

Theory of and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines.

HART 2345 Residential Air Conditioning System Design

Prerequisite: HART 1356

Credit: 3 (2 lecture, 3 lab)

Study of the properties of air and results of cooling, heating, humidifying or dehumidifying; heat gain and heat loss calculations including equipment selection and balancing the air system.

HART 2349 Heat Pumps

Prerequisite/Corequisite: HART 1341

Credit: 3 (2 lecture, 3 lab)

A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow, and other topics related to heat pump systems.

HART 2357 Specialized Commercial Refrigeration

Credit: 3 (2 lecture, 3 lab)

An advanced course covering the components, accessories, and service of specialized refrigeration units such as ice machines, soft-serve machines, cryogenics, and cascade systems.

HART 2368 Practicum (or Field Experience) Heating, Air Conditioning, and Refrigeration

Prerequisite: Department Approval

Credit: 3 (21 lab)

Practical general training and experiences in the workplace. The college, with the employer, develops and documents an individualized plan for the student, which relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary.

HART 2380 Cooperative Education - Heating, Air Conditioning, and Refrigeration Technologies/Technicians

Prerequisite: Department Approval

Credit: 3 (1 lecture per week and 20 hours per week external learning experience)

Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience.

HIST 1301 United States History to 1877

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

The American nation from the English colonization to the close of the Civil War through Reconstruction. Core Curriculum Course.

HIST 1302 United States History after 1877

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

The American nation from the end of the Reconstruction Era to the present. Core Curriculum Course.

HIST 2301 History of Texas

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

A survey of the political, economic, social, cultural, and intellectual development of Texas from the period of Spanish discovery to the present. History of Texas may be substituted for either HIST 1301 or HIST 1302. Core

Curriculum Course.

HIST 2311 Western Civilization I

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

Development of ancient, medieval, and early modern civilizations to 1660.

HIST 2312 Western Civilization II

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

Development of modern western civilization from 1660 to 1945.

HIST 2321 The Origins and Development of World Civilizations

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

A survey of the major western and non-western civilizations which developed from Sumeria to the end of the Middle Ages. Centered around a series of themes, particular emphasis is placed on the commonality of the human experience as illustrated in Europe, the Middle East, Asia and Sub-Saharan Africa. Core Curriculum Course.

HIST 2322 Modern World Civilizations: 1500 - Present

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

This course analyzes the effect on the world of the changing relationship between the West and the non-West over the past 500 years. Emphasis will be placed on the social, political and economic dynamics of this interchange. Core Curriculum Course.

HIST 2328 Mexican-American History

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

A survey of the role of the Mexican-American in United States history. Emphasis will be placed on economic, social, and cultural development with particular focus on contributions to American society.

HIST 2381 Afro-American History

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

A survey of the role of the Afro-American in United States history. Emphasis will be placed on economic, social, and cultural development with particular focus on contributions to American society.

HIST 2389 Academic Cooperative in History

Prerequisite: Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture, 0 lab)

An experiential-learning instruction program designed to integrate textbook and classroom knowledge with practical hands-on experience in an applied area of history. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

HITT 1166 Health Information Practicum I

Prerequisite: Department Approval

Credit: 1 (8 lab)

Practical general training and experiences in the workplace. The college with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study.

HITT 1167 Health Information Practicum II

Prerequisite: Department Approval

Credit: 1 (8 Lab)

Practical general training and experiences in the workplace. The college, with the employer, develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary.

HITT 1291 Special Topics in Health Information - Current Aspects of Health Information

Credit: 2 (2 lecture)

This course will study and research current trends in the management of Health Information. Topics may include the electronic patient record, management information systems and coding and classification systems.

HITT 1301 Health Data Content and Structure

Credit: 3 (2 lecture, 2 lab)

Introduction to system and processes for collecting, maintaining and disseminating primary and secondary health related information. Introduction in delivery and organizational structure to include content of health record, documentation requirements, registries, indices, licensing, regulatory agencies, forms, and screens.

HITT 1305 Medical TerminologyI

Credit: 3 (2 lecture, 4 lab)

Student of word origin and structure through the introduction of prefixes, suffixes, root words, plurals, abbreviations and symbols, surgical procedures, medical specialties, and diagnostic procedures.

HITT 1311 Computers in Health Care

Prerequisite: POFI 1301 or ITSC 1309

Credit: 3 (2 lecture, 3 lab)

Introduction to the concepts of computer technology related to health care and the tools and techniques for collecting, storing, and retrieving health care data.

HITT 1341 Coding and Classification Systems

Prerequisite: HPRS 2301, HITT 1349

Credit: 3 (2 lecture, 4 lab)

Application of basic coding rules, principles, guidelines, and conventions.

HITT 1349 Pharmacology

Prerequisite: HITT 1305, HITT 1445, BIOL 2402

Credit: 3 (3 lecture)

Overview of the basic concepts of the pharmacological treatment of various diseases affecting major body systems.

HITT 1353 Legal and Ethical Aspects of Health Information

Credit: 3 (3 lecture)

Concepts of confidentiality, ethics, health care legislation, and regulations relating to the maintenance and use of health information.

HITT 1355 Health Care Statistics

Credit: 3 (2 lecture, 2 lab)

General principles of health care statistics with emphasis in hospital statistics. Skill development in computation and calculation of health data with overview of guidelines for Texas Department of Health Vital Statistics and Studies.

HITT 1445 HealthCare Delivery Systems

Prerequisite: HITT 1301

Credit: 4 (4 lecture)

Introduction to organization, financing and delivery of health care services, accreditation, licensure and regulatory agencies.

HITT 2167 Health Information Practicum III

Prerequisite: Department Approval

Credit: 1 (8 lab)

Course Descriptions

Practical general training and experiences in the workplace. The college, along with the employer, develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical courses of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary.

HITT 2249 RHIT Competency Review
Prerequisite: Department Approval
Credit: 2 (l lecture, 3 lab)
Review of HIT competencies, skills, and knowledge base pertinent to the technology and relevant to the professional development of the student.

HITT 2267 Practicum (or Field Experience) - Health Information/Medical Records Technology/Technician
Prerequisite: Department Approval
Credit: 2 (15 lab)
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

HITT 2339 Health Information Organization and Supervision
Prerequisite: Department Approval
Credit: 3 (3 lecture)
Principles of organization and supervision of human, fiscal and capital resources.

HITT 2340 Advanced Medical Billing and Reimbursement
Credit: 3 (2 lecture, 2 lab)
Health insurance and reimbursement in various health care settings. Includes application of coding skills to prepare insurance forms for submission to third party payers.

HITT 2435 Coding and Reimbursement Methodologies
Prerequisite: HITT 1341
Credit: 4 (3 lecture, 3 lab)
Development of advanced coding techniques with emphasis on case studies, health records and federal regulations regarding perspective payment systems and methods or reimbursement.

HITT 2443 Quality Assurance and Performance Improvement
Prerequisite: Department Approval
Credit: 4 (4 lecture)
Study of the many facets of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, computation and presentation of data in statistical formats, quality improvement functions, quality tools, utilization management, risk management, and medical staff data quality issues.

HLAB 1401 Introduction to Histotechnology
Credit: 4 (4 lecture)
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 1402 Histotechnology I
Prerequisite: HLAB 1401
Credit: 4 (3 lecture, 3 lab)
Introduction to the basic theories and practices of histotechnology. Includes laboratory safety, fixation, tissue processing, embedding, microtomy and cryotomy, and routine staining.

HLAB 1405 Functional Histotechnology I
Prerequisite: HLAB 1401
Credit: 4 (4 lecture)
Recognition, composition, and function of cells, cell life cycles, blood, and basic tissue types.

HLAB 1443 Histotechnology II
Prerequisite: HLAB 1402
Credit: 4 (3 lecture, 3 lab)
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.

HLAB 1446 Functional Histology II
Prerequisite: HLAB 1405
Credit: 4 (4 lecture)
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.

HLAB 1460 Clinical-Histotechnology I
Corequisite: HLAB 1472
Credit: 4 (16 lab)
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 1461 Clinical-Histotechnology II
Prerequisite: HLAB 1460 (I)
Credit: 4 (16 lab)
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 1462 Clinical-Histotechnology III
Prerequisite: HLAB 1461 (II)
Credit: 4 (16 lab)
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
Prerequisite: Department Approval
Credit: 3 (3 lecture)
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. Emphasis on employment skills, review of ethical and legal behavior, and professional development.

HLAB 2434 Histotechnology III
Prerequisite: HLAB 1443
Credit: 4 (3 lecture, 3 lab)
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.

HPRS 1106 Medical Terminology
Credit: 1 (1 lecture)
A study of common medical terminology, word origin, structure, and application.

HPRS 1201 Introduction to Health Professions
Credit: 2 (2 lecture, 1 lab)
An overview of roles of various members of the health care system, educational requirements, and issues affecting the delivery of health care.

HPRS 2301 Pathophysiology
Prerequisite: BIOL 2402
Credit: 3 (2 lecture, 2 lab)
Study of the pathology and general health management of diseases and injuries across the life span. Topics include etiology, symptoms, and the physical and psychological reaction to diseases and injuries.

HPRS 2332 Healthcare communications

Prerequisites: PTHA 1305, PTHA 1413, PTHA 1229, PTHA 1201, HPRS 1106

Credit: 3 (3 lecture, 1 lab)

Application of oral, written, and technological methods of communication with clients, client support groups, health care professionals, and external agencies.

HRPO 1302 Human Resource Training and Development

Credit: 3 (3 lecture)

An overview of the human resource development function specifically concentrating on the training and development component. Topics include training as related to organizational mission and goals; budgeting; assessment; design, delivery, evaluation, and justification of training. Included are new trends in training, including distance and virtual education.

HRPO 1305 Management and Labor Relations

Credit: 3 (3 lecture)

The development and structure of the labor movement including labor legislation, collective bargaining, societal impact, labor/management relationships and international aspects.

HRPO 1311 Human Relations

Credit: 3 (3 lecture)

Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment.

HRPO 1392 Special Topics in Labor/ Personnel Relations and Studies

Credit: 3 (3 lecture)

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.

HRPO 2301 Human Resources Management

Credit: 3 (3 lecture)

Behavioral and legal approaches to the management of human resources in organizations.

HRPO 2307 Organizational Behavior

Credit: 3 (3 lecture)

The analysis and application of organizational theory, group dynamics, motivation theory, leadership concepts and the integration of interdisciplinary concepts from the behavioral sciences.

HRPO 2371 Recruiting, Interviewing and Placement of Human Resources

Credit: 3 (3 lecture)

A study of the concepts, techniques and regulations that apply to employment, recruitment, interviewing, selection and placement of human resources.

HRPO 2372 Wage and Salary Administration

Credit: 3 (3 lecture)

A study of contemporary business payroll problems emphasizing wage and benefits plans. Concepts of salary determinants, incentive pay systems, merit and seniority payments and wage and salary control systems are taught.

HUMA 1301 Introduction to Humanities

Prerequisite: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

An introduction to the arts and humanities. The course investigates the relationship between individual human lives and works of imagination and thought. Core Curriculum Course

HUMA 1305 Introduction to Mexican American Studies

Prerequisite: must be placed into college level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite).
Credit: 3 (3 lecture)

The main goal of this course is to provide students with a basic foundation in the Mexican-American/Chicano Studies discipline by offering inssight into historical, social sciences, demographics, socio cultural, political, economic, linguistics, educational, and cultural themes that are relevant to the experience of Mexican-Americans in the U.S. Core curriculum course.

HUMA 2319 The Minority Experience in the US

Prerequisite: ENGL 1301 or higher.
Credit: 3 (3 lecture)

The study of the historical, economic, social, and cultural development of minorities in the U.S. It may include African-American, Mexican-American, Asian-American, and Native-American issues. Core curriculum course

HUMA 2323 world cultures

Credit: 3 (3 lecture)
Prerequisite: ENGL 1301or higher

Study of human beings, their antecedents and related primates and their cultural behavior and institutions. Introduces the major sub-fields: physical and cultural anthropology, archealogy, linguistic, and ethnology.

HYDR 1309 Basic Fluid Power I (Hydraulics)

Credit: 3 (2 lecture, 3 lab)

Introduction to the basic principles of hydraulic pressure flow and system components including system controls, symbols, and circuits. Emphasis on good maintenance procedures, troubleshooting techniques, and safety practices.

HYDR 1315 Basic Fluid Power II (Pneumatics)

Credit: 3 (2 lecture, 3 lab)

Introduction to the basic principles of pneumatic pressure, flow, and system components including manual and electro-mechanical controls, symbols, and circuits. Emphasis on troubleshooting techniques, good maintenance procedures, and safety practices.

IBUS 1301 Principles of Exports

Credit: 3 (3 lecture)

Export management processes and procedures. Includes governmental controls and compliance, licensing of products, documentation, commercial invoices, and traffic procedures. Emphasizes human and public relations, management of personnel, finance, and accounting procedures.

IBUS 1302 Principles of Imports

Credit: 3 (3 lecture)

Practices and processes of import management operations. Includes government controls and compliance. Emphasizes the preparation and understanding of import documents such as customs invoices, packing lists, and commercial invoices.

IBUS 1305 Introduction to International Business and Trade

Credit: 3 (3 lecture)

The techniques for entering the international marketplace. Emphasis on the impact and dynamics of sociocultural, demographic, economic, technological, and political-legal factors in the foreign trade environment. Topics include patterns of world trade, internationalization of the firm, and operating procedures of the multinational enterprise.

IBUS 1341 Global Supply Chain Management

Prerequisite: LMGT 1319

Credit: 3 (3 lecture)

International purchasing or sourcing. Includes the advantages and the barriers of purchasing internationally, global sourcing, procurement technology, and purchasing processes. Emphasizes issues of contract administration, location, and evaluation of foreign suppliers, total cost approach, exchange fluctuations, customs procedures, and related topics.

Course Descriptions

IBUS 1354 International Marketing Management

Credit: 3 (3 lecture)

Analysis of international marketing strategies using market trends, costs, forecasting, pricing, sourcing and distribution factors. Development of an international export/import marketing plan.

IBUS 1370 Economic Geography

Credit: 3 (3 lecture)

A study of material management, government regulations and distribution systems throughout the world as related to economic factors regarding agriculture, manufacturing, and materials utilization.

IBUS 2335 International Business Law

Credit: 3 (3 lecture)

A course in law as it applies to international business transactions in the global political-legal environment. Study of inter-relationships among laws of different countries and the legal effects on individuals and business organizations. Topics include agency agreements, international contracts and administrations, regulations of exports and imports, technology transfers, regional transactions, intellectual property, product liability, and legal organization.

IBUS 2339 International Banking and Finance

Credit: 3 (3 lecture)

A course in international monetary systems, financial markets, flow of capital, foreign exchange, and financial institutions. Topics include export-import payments and financing the preparation of letters of credit, related shipping documentation, and electronic transfers. An introduction to multinational financial decisions, such as financing foreign investment or working capital.

IBUS 2341 Intercultural Management

Prerequisite: IBUS 1305

Credit: 3 (3 lecture)

Cross-cultural comparisons of management and communications processes. Emphasizes cultural geographic distinctions and antecedents that affect individual, group, and organizational behavior. May include sociocultural demographics, economics, technology, political-legal issues, negotiations, and processes of decision making in the international cultural environment.

IBUS 2380 Cooperative Education - International Business/Trade/Commerce

Prerequisite: IBUS 1305

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

IBUS 2381 Cooperative Education - International Business/Trade/Commerce

Prerequisite: IBUS 2380

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component

IMED 1301 Introduction to Multimedia

Corequisite: ARTC 1325

Credit: 3 (2 lecture, 4 lab)

A survey of theories, elements and hardware/software components of multimedia. Topics include digital image editing, digital components of multimedia, sound and video editing, animation, web development, and interactive presentations. Emphasis on conceptualizing, producing, and developing effective multimedia presentations. Upon completion of this course, the student will be prepared to make choices based on particular interests. This course introduces many software packages used in multimedia production.

IMED 1316 Web Page Design I

Corequisite: ARTC 1325

Credit: 3 (2 lecture, 4 lab)

Instruction in Internet web page design and related graphic design issues including markup languages, web sites and browsers.

IMED 1341 Interface Design

Prerequisite: ARTC 1325 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Skill development in the interface design process including selecting interfaces that are meaningful to users and relative to a project's content and delivery system. Emphasis on aesthetic issues such as iconography, screen composition, colors, and typography.

IMED 1345 Interactive Multimedia I

Prerequisite: ARTC 1325, ARTC 1302, or Department Approval

Credit: 3 (2 lecture, 4 lab)

Exploration of the use of graphics and sound to create interactive multimedia animations using industry standard authoring software.

IMED 1359 Writing for Multimedia Communications

Prerequisites: ETWR 1371

Credit: 3 (2 lecture, 4 lab)

Written communication for multimedia environments including public websites, blogs, and e-mail.

IMED 2301 Instructional Design

Prerequisite: ARTC 1325 or Department Approval

Credit: 3 (2 lecture, 4 lab)

An in-depth study of the instructional design process based on learning theories including evaluation of models and design examples. Designed to provide teachers with experience in the use of computers and computer based teaching for instruction, presentation, and administration.

IMED 2309 Internet Commerce

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

An overview of the Internet as a marketing and sales tool with emphasis on developing a prototype for electronic commerce. Topics include database technology, creating web sites in order to collect information, performing on-line transactions, and generating dynamic content.

IMED 2313 Project Analysis and Design

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

Introduction to the planning process for multimedia, including costing, preparation, production, legal issues, and guideline for pre-production preparation and creation of a comprehensive design document including target audience analysis, purpose and goals, objectives, content outline, flow charts and story boards. Emphasis on teamwork, content design, and production management.

IMED 2315 Web Page Design II

Prerequisite: ARTC 1325 and ITSE 2313 or Department Approval

Credit: 3 (2 lecture, 4 lab)

A study of mark-up language advanced layout techniques for creating web pages. Emphasis on identifying the target audience and producing web sites according to accessibility standards, cultural appearance, and legal issues.

IMED 2345 Interactive Multimedia II

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

Instruction in the use of scripting language to create interactive multimedia projects. Topics include building a user interface, writing script, testing, and debugging.

IMED 2349 Internet Communications

Prerequisite: Department Approval

Credit: 3 (2 lecture, 4 lab)

Advanced seminar in web server design and maintenance. Topics include scripting, web site planning, testing, security, production and marketing.

IMED 2351 Multimedia Programming

Prerequisite: IMED 1316 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Advanced topics in multimedia programming including custom scripts for data tracking. Emphasis on developing multimedia programs customized to the client's needs.

IMED 2388 Internship - Digital Communication and Media/Multimedia

Prerequisite: Department Approval

Credit: 3 (13 lab)

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.

INCR 1302 Physics of Instrumentation

Prerequisite/Corequisite: ELPT 1311

Credit: 3 (2 lecture, 2 lab)

An introduction to a simple pneumatic control loop. Introduction to pressure, temperature, level, and flow transmitters and the various transducers used in the detection of changes in process variables. This course is designed to familiarize the student with the instrumentation devices utilized in industrial automation and process control environments.

INDS 1291 Special Topics in Interior Design

Credit: 2 (2 lecture)

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.

INDS 1301 Basic Elements of Design

Credit: 3 (2 lecture, 3 lab)

A study of basic design concepts with projects in shape, line, value, texture, pattern, spatial illusion, and form.

INDS 1311 Fundamentals of Interior Design

Credit: 3 (3 lecture, 1 lab)

An introduction to the elements and principles of design, the interior design profession, and the interior design problem-solving process.

INDS 1315 Materials, Methods and Estimating

Credit: 3 (2 lecture, 3 lab)

A study of materials, methods or construction and installation, and estimating for interior design applications.

INDS 1319 Technical Drawing for Interior Designers

Credit: 3 (2 lecture, 4 lab)

An Introduction to reading and preparing technical construction drawings for interior design, including plans, elevations, details, schedules, dimensions and lettering.

INDS 1341 Color Theory and Application

Credit: 3 (2 lecture, 3 lab)

A study of color theory and its application to interior design.

INDS 1345 Commercial Design I

Prerequisites: INDS 2313

Credit: 3 (2 lecture, 4 lab)

A study of design principles applied to furniture layout and space planning for commercial interiors.

INDS 1349 Fundamentals of Space Planning

Prerequisite: INDS 1301, INDS 1319 and INDS 1311 or Department Approval

Credit: 3 (2 lecture, 3 lab)

The study of residential and light commercial spaces, including programming, codes, standards, space planning, drawings and presentations.

INDS 1351 History of Interiors I

Credit: 3 (3 lecture, 1 lab)

An historical survey of design in architecture, interiors, furnishings, and decorative elements from the ancient cultures through the Italian Renaissance time period.

INDS 1352 History of Interiors II

Credit: 3 (3 lecture, 1 lab)

A multi-cultural historical survey of design in architecture, interiors, furnishings, and decorative elements from the post-Renaissance period to present time.

INDS 1391 Special Topics in Interior Design

Prerequisite: Associate Degree in Interior Design or Department Approval

Credit: 3 (3 lecture)

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.

INDS 2305 Interior Design Graphics

Prerequisite: INDS 1319 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Skill development in computer-generated graphics and technical drawings for interior design applications.

INDS 2307 Textiles for Interior Design

Credit: 3 (2 lecture, 3 lab)

The study of interior design textiles including characteristics, care, codes, and applications.

INDS 2311 Interior Environment Factors

Prerequisite: Associate Degree in Interior Design or Department Approval

Credit: 3 (2 lecture, 4 lab)

A study of human factors affecting the interior environment, including proxemics, ergonomics, and universal design.

INDS 2313 Residential Design I

Prerequisite: INDS 1311, INDS 1341, INDS 1349, INDS 2330 and INDS 2317

Credit: 3 (2 lecture, 4 lab)

The study of residential spaces, including the identification of clients needs, programming, standards, space planning, drawings, and presentations.

INDS 2315 Lighting for Interior Design

Prerequisite: INDS 1319 or Department Approval

Credit: 3 (2 lecture, 3 lab)

Fundamentals of lighting design, including lamps, luminaries, lighting techniques, and applications for residential and commercial projects.

INDS 2317 Rendering Techniques

Prerequisite: INDS 2321

Credit: 3 (2 lecture, 3 lab)

A study of rendering techniques for formal interior design presentation, using a variety of media.

INDS 2321 Presentation Drawing

Credit: 3 (2 lecture, 3 lab)

An introduction to two-and three-dimensional presentations, including drawings with one- and two-point perspectives, plans, and elevations.

INDS 2325 Professional Practices for Interior Designers

Credit: 3 (3 lecture, 1 lab)

A study of business practices and procedures

for interior designers, including professional ethics, project management, marketing, and legal issues.

INDS 2330 Interior Design Building Systems

Prerequisite: INDS 1319

Credit: 3 (2 lecture, 4 lab)

An overview of building materials, mechanical systems, and construction techniques as applied to interior design. Discussion of codes, project sequencing and the interpretation of detailed working drawings.

INDS 2331 Commercial Design II

Prerequisite: Associate Degree in Interior Design or Department Approval

Credit: 3 (2 lecture, 4 lab)

Advanced concepts of specialized commercial interior design projects, including hospitality, corporate, retail, health care, institutional or other specialized commercial design projects.

INDS 2335 residential Design II

Prerequisite: Associate Degree in Interior Design or Department Approval

Credit: 3 (2 lecture, 4 lab)

A comprehensive study of complex residential interior design problems, including advanced space planning, documentation, specifications, budgets, and presentation renderings.

INDS 2337 Portfolio Presentation

Prerequisite: Approval of course instructor or Department Approval

Credit: 3 (2 lecture, 3 lab)

A course in the preparation and presentation of a comprehensive interior design portfolio, including resume preparation, employment interview skills, and goal setting.

INDS 2386 Internship-Interior Design

Prerequisite: Internship is done the final semester upon completion of the program. Consent of program advisor is required.

Credit: 3 (1 lecture, 17 lab) (272 hours Work Experience)

An experience external to the college for an advanced student in the specialized field involving a written agreement between the educational institution and a business or industry. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college and that are directly related to specific occupational outcomes. This may be a paid or unpaid experience. This course may be repeated if topics and learning outcomes vary.

INDS 2387 Internship- Interior Design

Prerequisite: Associate Degree in Interior Design or Department Approval

Credit: 3 (1 lecture, 17 lab) (272 hours Work Experience)

An experience external to the college for an advanced student in a specialized field involving a written agreement between the educational institution and a business or industry. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college and that are directly related to specific occupational outcomes. This may be a paid or unpaid experience. This course may be repeated if topics and learning outcomes vary.

INEW 1340 ASP.Net Programming

Prerequisite: ITSE 1447 or ITSE 1430

Credit: 3 (2 lecture, 4 lab)

Theory of server side web programming concepts to implement solutions for common web programming tasks. Includes Basic ASP.Net web controls, user management and authentication, state management, and development of database-driven web applications.

INEW 2334 Advanced Web Programming

Credit: 3 (2 lecture, 4 lab)

Programming for web authoring. Includes industry-standard languages and data stores.

INEW 2418 Web Programming Using Java Server Pages and Servlets

Prerequisite: ITSE 1356 and ITSE 2417

Credit: 4 (3 lecture, 3 lab)

Web application development using Java, HTML, Java Servlets, Java Server Pages (JSPs), and a web server.

INEW 2438 Advanced Java Programming

Prerequisite: ITSE 2417 or COSC 1437 and ITSE 1356

Credit: 4 (3 lecture, 3 lab)

A continuation of advanced JAVA programming techniques such as servlets, and advanced graphical functions.

INMT 1240 Computer-Integrated Manufacturing (SHORT COURSE)

Prerequisite/Corequisite: INMT1248
Credit: 2 (2 lecture)

A study of the principles and application of computer-integrated manufacturing. Employs all aspects of a system including, but not limited to, integration of material handling, manufacturing, and computer hardware and programming.

INMT 1241 Computer-Integrated Manufacturing (SHORT COURSE)

Prerequisite/Corequisite: INMT 1240

Credit: 2 (2 lecture)

A study of the principles and application of computer integrated manufacturing. Employs all aspects of a system including but not limited to integration of material handling, manufacturing, and computer hardware and programming.

INMT 1242 Computer Aided Design/ Computer Aided Manufacturing (CAD/ CAM) (Short Course)

Prerequisite/Corequisite: INMT 1248

Credit: 2 (2 lecture)

Computer-assisted applications in integrating engineering graphics and manufacturing. Emphasis on the conversion of a working drawing using computer aided design/computer aided manufacturing (CAD/CAM) software and related input and output devices to translate into machine code.

INMT 1243 Computer Aided Design/ Computer Aided Manufacturing (CAD/ CAM) (Short Course)

Prerequisite/Corequisite: INMT 1242

Credit: 2 (1 lecture, 3 lab)

Computer-assisted applications in integrating engineering graphics and manufacturing. Emphasis on the conversion of a working drawing using computer aided design/computer aided manufacturing (CAD/CAM) software and related input and output devices to translate into machine code.

INMT 1244 Computer Numerical Control (Short Course)

Prerequisite/Corequisite: INMT 1248

Credit: 2 (2 lecture)

A study of numerical controlled machine operations. Emphasis on standard and computer numerical controlled (CNC) procedures for planning, preparing, and operating a computer-assisted program.

INMT 1245 Computer Numerical Control (Short Course)

Prerequisite/Corequisite: INMT 1244

Credit: 2 (2 lecture)

A study of numerical controlled machine operations. Emphasis on standard and computer numerical controlled (CNC) procedures for planning, preparing, and

operating a computer-assisted program.

INMT 1248 Manufacturing Processes (Short Course)

Corequisite: INMT 1249

Credit: 2 (2 lecture)

Exploration of a variety of methods used in manufacturing. Theory and application of processes including but not limited to metal forming, welding, machining, heat treating, plating, assembly procedures, and process control considerations, casting and injection molding.

INMT 1249 Manufacturing Processes (Short Course)

Prerequisite/Corequisite: INMT 1248

Credit: 2 (1 lecture, 3 lab)

Exploration of a variety of methods used in manufacturing. Theory and application of processes including but not limited to metal forming, welding, machining, heat treating, plating, assembly procedures, and process control considerations, casting and injection molding.

INMT 1291 Special Topics in Manufacturing Technology/Technician

Prerequisite/Corequisite: INMT 1245

Credit: 2 (1 lecture, 3 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

INMT 1317 Industrial Automation

Credit: 3 (2 lecture, 2 lab)

A study of the 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.

INMT 1380 Cooperative Education-Industrial/Manufacturing Technology/Technician

Prerequisite: Department Approval
Credit: 3 (1 lecture, 20 lab)

Career related activities encountered in the student's area of specialization offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

INMT 1391 Special TOPICS - Principles of Tool Design

Prerequisite/Corequisite: INMT 1249

Credit: 3 (3 lecture)

This course covers the type and functions of jigs and fixtures, supporting and locating, clamping and work holding, basic construction, tool drawings, tool materials, specific tool design studies, cutting tools, blanking and forming dies.

INMT 1391 Special Topics - Plant Layout

Prerequisite/Corequisite: INMT 1249

Credit: 3 (3 lecture)

This course is designed to equip the student on the perspectives concerning the relationship of timing material flow and its interface to operation to minimize in-house material time frames. Factory design and equipment changes.

INMT 1391 Special Topics in Manufacturing Technology/Technician

Prerequisite/Corequisite: INMT 1249

Credit: 3 (3 lecture)

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.

INMT 2334 NC/CNC Programming

Credit: 3 (3 lecture)

A study of the principles and concepts of numerical control through computer applications, specifically in the area of programming for the control of machine tools in CIM.

INTC 1305 Introduction to Instrumentation

Prerequisite: MATH 1314

Credit: 3 (3 lecture)

A survey of the instrumentation field and the professional requirements of the instrumentation technician. Includes computer and calculator applications.

INTC 1312 Instrumentation and Safety

Credit: 3 (3 lecture)

An overview of industries employing instrument technicians. Includes instrument safety techniques and practices as applied to the instrumentation field.

INTC 1343 Application of Industrial Automatic Controls

Prerequisite: INTC 1441

Credit: 3 (3 lecture)

Automatic process control including measuring devices, analog and digital instrumentation, signal transmitters, recorders, alarms, controllers, control valves, and process and instrument drawings. Includes connection and troubleshooting of loops.

INTC 1401 Principles of Industrial Measurements I

Prerequisite: INTC 1312

Credit: 4 (2 lecture, 4 lab)

Principles of measurement and devices used to measure process variables and basic control functions.

INTC 1441 Principles of Automatic Control

Prerequisite: INTC 1312, INTC 1456, Math 1314

Credit: 4 (3 lecture, 3 lab)

Basic measurements, automatic control systems and design, closed loop systems, controllers, feedback, control modes, and control configurations.

INTC 1450 Digital Measurement and Controls

Prerequisite: INTC 1305, INTC 1441

Credit: 4 (2 lecture, 4 lab)

Basic digital concepts. Includes movement of digital data through common systems employing parallel and serial transfers.

INTC 1456 Instrumentation Calibration

Credit: 4 (3 lecture, 3 lab)

Techniques for calibrating electronic and pneumatic transmitters, controllers, recorders, valves, and valve positioners. Includes tear down, assembly, alignment, and calibration of equipment.

INTC 1491 Special Topics in Instrumentation Technology/Technician

Prerequisite: INTC 1441

Credit: 4 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

INTC 2330 Instrumentation Systems Troubleshooting

Prerequisite: INTC 1441

Credit: 3 (2 lecture, 4 lab)

Techniques of troubleshooting in a complex instrumented environment. Includes laboratory exercises requiring troubleshooting upsets in processes.

INTC 2339 Instrument and Control Review

Prerequisite: INTC 1441

Credit: 3 (3 lecture)

An overview of instruments and control stressing An overview of instrument and control technology in preparation for industry

employment and national testing.

INTC 2436 Distributed Control and Programmable Logic

Prerequisite: INTC 1343 or Department Approval

Credit: 4 (3 lecture, 3 lab)

An overview of distributed control systems including configuration of programmable logic controllers, smart transmitters, and field communicators. Functions of digital systems in a process control environment.

INTC 2473 fuel cell instrumentation

Credit: 4 (2 lecture, 4 lab)

Study of the interrelation and maintenance of fuel cell equipment and systems with related scientific principles. This course also combines fuel cell systems incorporated into automatic and variable operations.

INTC 2480 Cooperative Education - Instrumentation Technology/Technician

Prerequisite: INTC 1343 or Department Approval

Credit: 4 (1 lecture, 21 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

ITCC 1309 CISCO Voice and Data Cabling

Credit: 3 (2 Lecture, 4 Lab)

Introduces the physical aspects of CISCO voice and data network cabling and installation; skills development in reading network design documentations, part list setup and purchase, pulling and mounting cable, cable management, choosing wiring closets and patch panel installation and termination, installing jacks and testing cable.

ITCC 1402 CCNA 1: Networking Basics

Prerequisite: CPMT 1403 or Department Approval

Credit: 4 (3 lecture, 3 lab)

A course introducing the basics of networking. Includes network terminology, local area networks (LAN) and wide area networks (WAN). Also covers network protocols such as TCP/IP, Open System Interconnection (OSI) models, cabling, routers, and subnetting.

ITCC 1406 CCNA 2: Router and Routing Basics

Prerequisite: ITCC 1402 or ITMC 1341 or Department Approval

Credit: 4 (3 lecture, 3 lab)

An introduction to basic Cisco router configuration for local area networks. Topics include initial router configuration for TCP/IP, management of Cisco IOS and router configuration files, routing protocols, and access control lists.

ITCC 1442 CCNA 3: Switching Basic and Intermediate Routing

Prerequisite: ITCC 1406

Credit: 4 (3 lecture, 3 lab)

A course focusing on advanced topics including IP addressing techniques, intermediate routing protocols, Command Line Interface (CLI), configuration of switches, Ethernet switching, VLANs, Spanning Tree Protocol, and VLAN Trunking Protocol.

ITCC 1446 CCNA 4: Wide Area Network (WAN) Technologies

Prerequisite: ITCC 1442

Credit: 4 (3 lecture, 3 lab)

This course focuses on advanced IP addressing techniques (Network Address Translation [NAT], Port Address Translation [PAT], and Dynamic Host Configuration Protocol (DHCP), WAN technology and terminology, Point to Point protocol (PPP), Integrated Services Digital Network (ISDN), Dial on Demand Routing (DDR), Frame Relay, network management and introduction to optical networking. In addition, the student will prepare for the CCNA exam.

ITCC 2432 CCNP 1: Advanced Routing

Prerequisite: ITCC 1446

Credit: 4 (3 lecture, 3 lab)

A study of advanced network deployment issues and methods used to configure Cisco routers for effective LAN and WAN traffic management. Topics include designing scalable internetworks, managing traffic, configuring OSPF in single and multiple areas, configuring EIGRP, configuring and using interior and border gateway routing protocols, and techniques used for route filtering and route redirection.

ITCC 2436 CCNP 2: Remote Access

Prerequisite: ITCC 2432

Credit: 4 (3 lecture, 3 lab)

Designing and building remote access networks with Cisco products. Includes assembling and cabling WAN components, configuring network connections via asynchronous modem, ISDN, X.25, broadband, Virtual Private Network (VPN), and frame relay architectures and associated protocols.

ITCC 2440 CCNP 3: Multilayer Switching

Prerequisite: ITCC 2436

Credit: 4 (3 lecture, 3 lab)

This course introduces students about the deployment of the state-of-the-art campus LANs. The course focuses on the selection and implementation of the appropriate Cisco IOS services to build reliable scalable multilayer-switched LANs. Students will develop skills with VLANs, VTP, STP, inter-VLAN routing, multilayer switching, redundancy, Cisco AVVID solutions, Quality of Service (QoS) issues, campus LAN security, and emerging transparent LAN services. Key course stresses the design, implementation, operation, and troubleshooting of switched and routed environments.

ITCC 2444 CCNP 4: Internetwork Troubleshooting

Prerequisite: ITCC 2440

Credit: 4 (3 Lecture, 3 Lab)

This course focuses on documenting and baselining networks and Layer 1 through 4 troubleshooting. Topics include Cisco Troubleshooting Tools, diagnosing and correcting problems within TCP/IP, Frame Relay, and ISDN network connections.

ITMT 1300 Implementing and Supporting Microsoft Windows XP Professional

Prerequisite: BCIS 1405, ITNW 1425, ITSC 1309 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Addresses the implementation and desktop support needs of customers that are planning to deploy and support Microsoft Windows XP Professional in a variety of stand-alone and network operating system environments. In-depth, hands-on training for Information Technology (IT) professionals responsible for the planning, implementation, management, and support of Windows XP Professional.

ITMT 1340 Managing and Maintaining a Microsoft Windows Server 2003 Environment

Prerequisite: ITMT 1300

Credit: 3 (2 lecture, 4 lab)

Managing accounts and resources, maintaining server resources, monitoring server performance, and safeguarding data in a Microsoft Windows Server 2003 environment.

ITMT 1350 Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure: Network

Services

Prerequisite: ITMT 1300

Credit: 3 (2 lecture, 4 lab)

Implementing routing; implementing, managing, and maintaining Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and Windows Internet Name Service (WINS); securing Internet Protocol (IP) traffic with Internet Protocol security (IPSec) and certificates; implementing a network access infrastructure by configuring the connections for remote access clients; and managing and monitoring network access.

ITMT 2300 Planning, Implementing, and Maintaining a Microsoft Windows Server 2003 Active Directory Infrastructure

Prerequisite: ITMT 1340

Credit: 3 (2 lecture, 4 lab)

Windows Server 2003 directory service environment. Includes forest and domain structure; Domain Name System (DNS); site topology and replication; organizational unit structure and delegation of adminIstration; Group Policy; and user, group, and computer account strategies

ITMT 2330 Designing a Microsoft Windows Server 2003 Active Directory and Network Infrastructure

Prerequisite: ITMT 1340

Credit: 3 (2 lecture, 4 lab)

Designing a Microsoft Active Directory service and network infrastructure for a Microsoft Windows Server 2003 environment. Intended for systems engineers who are responsible for designing directory service and/or network infrastructures.

ITNW 1351 Fundamentals of Wireless LANs

Credit: 3 (2 Lecture, 4 Lab)

Designing, planning, implementing, operating, and troubleshooting wireless LANs (WLANs). Includes WLAN design, installation, and configuration; and WLAN security issues and vendor interoperability strategies.

ITNW 1358 Network+

Prerequisite: ITNW 1425 or Department Approval
Corequisite: MATH 1314

Credit: 3 (2 lecture, 4 lab)

Prepares individuals for a career as a Network Engineer in the Information Technology support industry. Includes the various responsibilities and tasks required for service engineer to successfully perform in a specific environment. Prepares individuals to pass the Computing Technology Industry Association (CompTIA) Network+ certification exam.

ITNW 1380 Cooperative Education - Computer Systems Networking and Telecommunications

Prerequisite: Completion of 12 semester hours of course work within the major and Department Approval.

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

ITNW 1425 Fundamentals of Networking Technologies

Prerequisite: College ready for English and math (i.e. no remediation needed) and high school computer literacy or equivalent

Credit: 4 (3 lecture, 3 lab)

Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software.

ITNW 2432 UNIX Network Integration

Prerequisite: ITSC 1458

Credit: 4 (3 lecture, 3 lab)

Installation, configuration, management, and support of a network infrastructure in a large computing environment that uses a version of the UNIX server operating system. Includes connectivity requirements, network services, and applications including file, print, database, messaging, proxy server, firewall, Dynamic Host Configuration Protocol, Network Time Protocol, Domain Name Service, and Internet Protocol Version 6 configuration and use.

ITMT 2340 Designing Security for Microsoft Networks

Prerequisite: ITMT 1340

Credit: 3 (2 lecture, 4 lab)

Assembling the design team, modeling threats, and analyzing security risks in order to meet business requirements for securing computers in a networked environment. Includes decision-making skills through an interactive tool that simulates real-life scenarios. Focuses on collecting information and sorting through details to resolve a given security requirement.

ITSC 1301 Introduction to Computers

Credit: 3 (2 lecture, 2 lab)

Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources.

ITSC 1302 Computer Control Language

Prerequisite: ITSC 1370

Credit: 3 (2 lecture, 4 lab)

Skill development in the use of system control language on mid-range/mainframe computers. Topics include command formats, file management, job scheduling, resource management, and utilities.

ITSC 1307 UNIX Operating System I

Prerequisite/Corequisite: COSC 1436 or Department Approval

Credit: 3 (2 lecture, 4 lab)

A study of the UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. Topics include introductory systems management concepts.

ITSC 1309 Integrated Software Applications I

Credit: 3 (2 lecture, 2 lab)

Integration of applications from popular business productivity software suites. Instruction in embedding data, linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software. Emphasis is on developing end-user proficiency skills for the workplace.

ITSC 1316 LINUX Installation and Configuration

Prerequisite: ITSC 1370

Credit: 3 (2 lecture, 4 lab)

Open-source Linux operating system. Includes Linux installation, basic administration, utilities and commands, upgrading, networking, security, and application development. Emphasizes hands-on setup, administration, and management of Linux. Also covers maintaining and securing reliable Linux systems.

ITSC 1321 Intermediate PC Operating Systems

Prerequisite: BCIS 1405 or ITSC 1309

Credit: 3 (2 lecture, 4 lab)

Continued study in advanced installation and configuration troubleshooting, advanced file management, memory and storage management. Update peripheral device drivers, and use of utilities to increase system performance.

ITSC 1342 Shell Programming

Prerequisite: ITSC 1307

Credit: 3 (2 lecture, 4 lab)

Reading, writing, and debugging shell scripts. Development of scripts to automate frequently executed sequences of commands. Covers conditional logic, user interaction, loops, and menus to enhance the productivity and effectiveness of the user. Intended for

programmers who are familiar with operating environments and reading and writing various shell scripts.

ITSC 1370 Introduction to Eneterprise Servers

Prerequisite: ITSC 1301

Credit: 3 (2 lecture, 4 lab)

Learn the base elements, optional features, and servers provided in IBM z/OS platform. Investigate the major software base elements involved in the management of jobs, tasks, storage, data, and program and system failures.

ITSC 1380 Cooperative Education– Computer and Information Sciences, General

Prerequisites: Completion of 12 hours of course work within the major and Department Approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

ITSC 1447 UNIX System Administration II

Prerequisite: ITSC 1458

Credit: 4 (3 lecture, 3 lab)

Provides students with the necessary skills to administer UNIX workstations in a network environment. System security features will be presented.

ITSC 1458 UNIX System Administration I

Prerequisite: ITSC 1307

Credit: 4 (3 lecture, 3 lab)

Provide new system administrators the basics of administering UNIX workstations. Students will perform basic system administration tasks, such as installing a standalone system, adding users, backing up and restoring file systems, and adding new printer support. Emphasis on the procedures needed to perform these system administration tasks. Introduces the concept of the system and disk management.

ITSC 2321 Integrated Software Applications II (Advanced Word)
Prerequisite: ITSC 1309 or BCIS 1405 or Department Approval

Credit: 3 (2 lecture, 2 lab)

Continued study of computer applications from business productivity software suites. Instruction in embedding data and linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software.

ITSE 1301 Web Design Tools

Prerequisite: BCIS 1405, ITSC 1309 or Department Approval

Credit: 3 (2 lecture, 4 lab)

Designing and publishing Web documents. Includes graphic design issues and exploration of tools available for creating and editing Web documents.

ITSE 1306 Computer Programming Using Hypertext Preprocessor (PHP)

Prerequisites: IMED 2309, IMED 2351

Credit: 3 (2 lecture, 4 lab

Hypertext preprocessor (PHP). Includes the basics of PHP, design of web-based applications, arrays, strings, regular expressions, file I/O, e-mail and database interfaces, stream and network programming, debugging, and security. Emphsizes hands-on programming skills necessary to develop secure and reliable PHP-based web applications.

ITSE 1345 Introduction to Oracle SQL

Prerequisites: COSC 1436, ENGL 1301, and MATH 1314

Credit: 3 (2 lecture, 4 lab)

An introduction to the design and creation of relational databases using Oracle. Topics include storing, retrieving, updating, and displaying data using Structured Query Language (SQL).

ITSE 1346 Database Theory and Design

Prerequisite: BCIS 1405 or ITSC 1309

Credit: 3 (2 lecture, 4 lab)

Introduction to the analysis and utilization of data requirements and organization intro normalized tables using the four normal forms of database design.

ITSE 1350 System Analysis and Design

Prerequisite: COSC1436 or Department Approval

Credit: 3 (2 lecture, 2 lab)

Comprehensive introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools.

ITSE 1356 Extensible Markup Language (XML)

Prerequisite: BCIS 1405, ITSC 1309, or ITSE 1301

Credit: 3 (2 lecture, 2 lab)

Introduction of skills and practices related to Extensible Markup Language (XML). Includes Document Type Definition (DTD), well-formed and valid XML documents, XML schemes, and Extensible Style Language (XSL).

ITSE 1380 Cooperative Education- Computer Programming/Programmer, General

Prerequisites: Completion of 12 hours of course work within the major and Department Approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

ITSE 1391 Oracle 10g New Features

Prerequisite: ITSE 1345

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

ITSE 1402 Computer Programming

Prerequisite: MATH 0312

Credit: 4 (3 lecture, 3 lab)

Introduction to computer programming with emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

ITSE 1430 Introduction to C# Programming

Prerequisite: COSC 1437 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling.

ITSE 1432 Introduction to Visual Basic. Net Programming

Prerequisite: COSC 1437 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Data types, control structures, functions, syntax and semantics of the language, classes, class relationships, and exception handling.

ITSE 1447 Programming with Visual Basic.Net

Prerequisite: ITSE 1432

Credit: 4 (3 lecture, 3 lab)

Designing and developing enterprise applications using Microsoft Visual Basic. Net in the Microsoft.Net Framework. Includes reference types, class relationships, polymorphism, operators overloading, and creating and handling exceptions

ITSE 2313 Web Authoring

Prerequisites: ARTC 1325, IMED 1316

Credit: 3 (2 lecture, 4 lab)

Instruction in designing and developing web pages that incorporate text, graphics, and other supporting elements using current technologies and authoring tools.

ITSE 2337 Assembly Language Programming

Prerequisite: COSC 1436, ITSC 1302, or ITSE 1402

Credit: 3 (2 lecture, 4 lab)

Comprehensive coverage of low-level computer operations and architecture. Includes design, development, testing, implementation, and documentation of programs; language syntax; data manipulation; input/output devices and operations; and file access.

ITSE 2346 Oracle: Applications I

Prerequisites: ITSE 1345, COSC 1436 and ITSE 1346

Credit: 3 (2 lecture, 4 lab)

Forms in a Developer environment. Topics include the use of Object Navigator and Virtual Graphics System (VGS), Layout Editor and Menu options.

ITSE 2348 ORACIE: Applications II

Prerequisite: ITSE 2346

Credit: 3 (2 lecture, 4 lab)

A continuation of Oracle Forms: Application I and an introduction to Reports. Topics include creating multiple form applications, managing multiple transactions across modules, and enhancing applications with custom menus, reports, and charts.

ITSE 2354 Advanced Oracle PL/SQL

Prerequisite: ITSE 1402 or COSC 1436 and ITSE 1346

Credit: 3 (2 lecture, 4 lab)

A continuation of Oracle SQL. Topics include hierarchical queries, set based queries, correlated subqueries, scripting, and scripting generation.

ITSE 2417 JAVA Programming

Prerequisite: COSC 1437

Credit: 4 (3 lecture, 3 lab)

Introduction to Java programming with object-orientation. Emphasis is on the fundamental syntax and semantics of Java for applications and web applets.

ITSE 2421 Object-Oriented Programming

Prerequisite: COSC 1437

Credit: 3 (3 lecture, 3 lab)

Introduction to object-oriented programming. Emphasis on the fundamentals of structured design with classes, including development, testing, implementation, and documentation. Includes object-oriented programming techniques, classes, and objects.

ITSE 2434 Advanced Visual Basic.NET Programming

Prerequisite: ITSE 1447

Credit: 4 (3 lecture, 3 lab)

Windows Forms, ADO.NET, XML, Data Bound Controls, DataSet, Assemblies, Attributes, Reflection, Marshalling and Remoting, Threads and Synchronization, Streams, Deployment, Generics, Partial Classes, Application Blocks, and data encryption. Emphasizes using the more advanced rfeatures of the .NET Framework Class Library

ITSE 2444 Oracle Database Structure and Data Warehousing

Prerequisite: ITSE 2456

Credit: 4 (3 lecture, 3 lab)

A practical application course for modeling and designing an Oracle data warehouse using case studies.

ITSE 2453 Advanced C# Programing

Prerequisite: ITSE 1430 and ITSE 1356

Credit: 4 (3 lecture, 3 lab)

Windows Forms, ADO.NET, XML, Data Bound Controls, DataSet, Assemblies, Attributes, Reflection, Marshalling and Remoting, Threads and Synchronization, Streams, Deployment, Generics, Partial Classes, Application Blocks, and data encryption. Emphasizes using the more advanced features of the .NET Framework Class Library.

ITSE 2456 Oracle Database Administration I (10g)

Prerequisite: ITSE 1345 Corequisite: ITSC 1307 Credit: 4 (3 lecture, 3 lab)

Fundamentals of the tasks and functions required of a database administrator using Oracle.

ITSE 2458 Oracle Database Administration II (10g)

Prerequisite: ITSE 2456

Credit: 4 (3 lecture, 3 lab)

A continuation of Oracle Database Administration I. Topics include recovery procedures, logical backups, standby database capabilities, and performance tuning of the Oracle Server. Common performance problems and the use of diagnostic tools to troubleshoot and optimize throughput will be discussed.

ITSW 2334 Advanced Spreadsheets

Prerequisites: ITSC 1309 or BCIS 1405, and MATH 1314 and ENGL 1301

Credit: 3 (2 lecture, 2 lab)

Designed to provide an understanding of advanced functionality of electronic spreadsheets.

ITSW 2337 Advanced Database

Prerequisites: ITSC 1309 or BCIS 1405, and MATH 1314 and ENGL 1301

Credit: 3 (2 lecture, 2 lab)

Designed to provide an understanding of advanced functionality of databases.

ITSY 1300 Fundamentals of Information Security

Credit: 3 (2 lecture, 4 lab)

Basic information security goals of availability, integrity, accuracy, and confidentiality. Vocabulary and terminology specific to the field of information security are discussed. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. The importance of appropriate planning and administrative controls is also discussed.

ITSY 1342 Information Technology Security

Credit: 3 (2 lecture, 4 lab)

Prerequisites: ITMT 1350 and ITMT 1340

Instruction in security for network hardware, software, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses.

ITSY 1417 Wireless Foundations

Credit: 4 (3 lecture, 2 lab)

Planning, design, implementation, operation, and troubleshooting for wireless and cellular telephony systems. Includes call processing, hand-off, site analyses, overview of RF antenna, testing, maintenance, access protocols, security, and vendor interoperability.

ITSY 1427 Telecommunications Media: Physical Layer Implementation

Credit: 4 (3 lecture, 2 lab)

Fundamentals of telecommunications

media. Emphasizes installation, testing, certifying, maintenance, documentation, and troubleshooting. Also includes connectorization of Unshielded Twisted Pair and Fiber Optic cables, TIA 568A & TIA 569 compliance, media characteristics, and appropriate installation procedures.

ITSY 2401 Firewalls and Network Security

Prerequisite: ITSY 1300 Credit: 4 (3 lecture, 3 lab)

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.

ITSY 2417 Wireless Security Development

Prerequisite: ITCC 1402 or CPMT 1449

Credit: 4 (3 lecture, 2 lab)

Developing information security policies, standards, and guidelines for an organization. Includes DMZ, antivirus, Virtual Private Network (VPN), wireless communications, remote access, and other critical administrative and operational security policies. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. Emphasizes wireless security goals of availability, integrity, accuracy, and confidentiality in the design, planning, implementing, operating, and troubleshooting of wireless LAN along with appropriate planning and administrative controls.

JAPN 1300 Beginning Japanese Conversation I

Credit: 3 (3 lecture)

An introductory Japanese course that emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than Japanese 1411. It is highly recommended for students without previous experience in the Japanese language. This course is not open to students whose first language is Japanese. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

JAPN 1310 Beginning Japanese Conversation II

Prerequisite: JAPN 1300 or equivalent

Credit: 3 (3 lecture)

Continuation of JAPN 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of Japanese following this course must take JAPN 1411.

JAPN 1411 Beginning Japanese I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Introduction to Japanese language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

JAPN 1412 Beginning Japanese II

Prerequisite: JAPN 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school Japanese within the last two years Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Continuation of JAPN 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

JAPN 2311 Intermediate Japanese I

Prerequisite: JAPN 1412 or equivalent Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

In-depth study of Japanese grammar. Oral practice based on selected readings on culture and current events. Continuing practice in reading and writing in Hiragana and Katakana, as well as in Kanji (Chinese five characters). Core Curriculum Course.

JAPN 2312 Intermediate Japanese II

Prerequisite: JAPN 2311 or equivalent

Credit: 3 (3 lecture)

Continuation of JAPN 2311. Extensive practice in conversation and composition with emphasis on reading and writing in Kanji. Core Curriculum Course.

KORE 1411 Beginning Korean I

Prerequisite: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Core Curriculum course.

KORE 1412 Beginning Korean II

Prerequisite: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Continuation of fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Core Curriculum course.

KORE 2311 Intermediate Korean I

Prerequisite: KORE 1412 or equivalent. Must also be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

In-depth study of Korean grammar. Oral practice based on selected readings on culture and current events. Continuing practice in reading and writing in Korean. Core Curriculum Course.

KORE 2312 Intermediate Korean II

Prerequisite: KORE 2311 or equivalent

Credit: 3 (3 lecture)

Continuation of KORE 2311. Extensive practice in conversation and composition with emphasis on reading and writing in Korean. Core Curriculum Course

LANG 1311, 1411, 1511 Beginning Foreign Language I

Credit: 3, 4, or 5.

This is a state-approved course prefix for posting transfer credit of a foreign language course where there is no home equivalent. Transfer credit with the LANG prefix is utilized in HCC degree plans in the same way as home foreign language courses with the number 1411 is utilized.

LANG 1312, 1412, 1512 Beginning Foreign Language II

Credit: 3, 4, or 5.

This is a state-approved course prefix for posting transfer credit of a foreign language course where there is no home equivalent. Transfer credit with the LANG prefix is utilized in HCC degree plans in the same way as home foreign language courses with the number 1412 is utilized.

LANG 2311, 2411 Intermediate Foreign Language I

Credit: 3 or 4.

This is a state-approved course prefix for posting transfer credit of a foreign language course where there is no home equivalent. Transfer credit with the LANG prefix is utilized

in HCC degree plans in the same way as home foreign language courses with the number 2311 is utilized.

LANG 2312, 2412 Intermediate Foreign Language I
Credit: 3 or 4.

This is a state-approved course prefix for posting transfer credit of a foreign language course where there is no home equivalent. Transfer credit with the LANG prefix is utilized in HCC degree plans in the same way as home foreign language courses with the number 2312 is utilized.

LGLA 1303 Legal Research
Credit: 3 (3 lecture)
This course provides a working knowledge of the fundamentals of effective legal research. Topics include law library techniques, computer assisted legal research, citation forms, briefs, and court opinion discussions.

LGLA 1305 Legal Writing
Prerequisite: LGLA 1303 Credit: 3 (3 lecture)
This course provides a working knowledge of the fundamentals of effective legal writing. Topics include briefs, legal memoranda, case and fact analysis, citation forms, and legal writing styles.

LGLA 1344 Texas Civil Litigation
Credit: 3 (3 lecture)
Fundamental concepts and procedures of Texas civil litigation with emphasis on the paralegal's role.

LGLA 1345 Civil Litigation
Prerequisite: LGLA 1344
Credit: 3 (3 lecture)
This course presents fundamental concepts and procedures of civil litigation with emphasis on the paralegal's role. Topics include pretrial, trial, and post trial phases of litigation.

LGLA 1351 Contracts
Credit: 3 (3 lecture)
This course presents fundamental concepts of contract law with emphasis on the paralegal's role. Topics include formation, performance, and enforcement of contracts under the common law and the Uniform Commercial Code.

LGLA 1353 Wills, Trusts and Probate Administration
Credit: 3 (3 lecture)
This course presents fundamental concepts of the law of wills, trusts, and probate administration with emphasis on the paralegal's role.

LGLA 1355 Family Law
Credit: 3 (3 lecture)
This course presents fundamental concepts of family law with emphasis on the paralegal role. Topics include formal and informal marriages, divorce, annulment, marital property, and the parent-child relationship

LGLA 1370 Pro Doc for Paralegals
Prerequisite: LGLA 1303
Credit: 3 (3 lecture)
The Pro Doc class in Paralegal Technology will include instruction using the automated legal document assembly computer software. The software generates a finished work product for Texas Legal Practitioners. Pro Doc certification is also available for students after passing an exam offered by Pro Doc.

LGLA 1380 Cooperative Education - Legal Assistant/Paralegal
Prerequisite: LGLA 1303 and LGLA 1344
Credit: 3 (1 lecture, 19 lab)
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

LGLA 2303 Torts and Personal Injury Law
Credit: 3 (3 lecture)
This course presents fundamental concepts of tort law with emphasis on the paralegal role. Topics include intentional torts, negligence, and strict liability.

LGLA 2307 Law Office Management
Credit: 3 (3 lecture)
This course presents the fundamentals of law office management and organization including basic principles and structure of management, administrative and substantive systems in the law office, and law practice technology.

LGLA 2309 Real Property
Credit: 3 (3 lecture)
This course presents fundamental concepts of real property law with emphasis on the paralegal's role. Topics include the nature of real property, rights and duties of ownership, land use, voluntary and involuntary conveyances, and the recording of and searching for real estate documents.

LGLA 2311 Business Organizations
Credit: 3 (3 lecture)
This course presents basic concepts of business organizations with emphasis on the paralegal's role. Topics include law of agency, sole proprietorships, forms of partnerships, corporations, and other emerging business entities.

LGLA 2313 Criminal Law and Procedure
Credit: 3 (3 lecture)
This course introduces the criminal justice system including procedures from arrest to final disposition, principles of federal and state law, and the preparation of pleadings and motions.

LGLA 2315 Oil and Gas Law
Credit: 3 (3 lecture)
This course presents fundamental concepts of oil and gas law including the relationship between landowners and oil and gas operators, government regulation, and documents used in the industry.

LGLA 2381 Cooperative Education - Legal Assistant/Paralegal
Prerequisite: LGLA 1303, LGLA 1305, LGLA 1344, LGLA 1345, or Department Approval
Credit: 3 (1 lecture, 19 lab)
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

LMGT 1319 Introduction to Business Logistics
Credit: 3 (3 lecture)
A systems approach to managing activities associated with traffic, transportation, inventory management and control, warehousing, packaging, order processing, and materials handling.

LMGT 1321 Introduction to Materials Handling
Credit: 3 (3 lecture)
Introduces the concepts and principles of materials management to include inventory control and forecasting activities.

LMGT 1323 Domestic and International Transportation Management
Credit: 3 (3 lecture)
An overview of the principles and practices of transportation and its role in the distribution process. Emphasis on the physical transportation systems involved in the United States as well as on global distribution systems. Topics include carrier responsibilities and services, freight classifications, rates, tariffs, and public policy and regulations. Also includes logistical geography and the development of skills to solve logistical transportation problems and issues.

LMGT 1325 Warehouse and Distribution Center Management

Course Descriptions

Credit: 3 (3 lecture)

Emphasis on physical distribution and total supply chain management. Includes warehouse operations management, hardware and software operations, bar codes, organizational effectiveness, just-in-time manufacturing, continuous replenishment, and third party.

LMGT 1345 Economics of Transportation and Distribution

Credit: 3 (3 lecture)

A study of the basic economic principles and concepts applicable to transportation and distribution.

LMGT 1349 Materials Requirement Planning

Credit: 3 (3 lecture)

A study of materials requirement planning that includes net change versus regenerative systems, lot sizing, and the time sharing of dependent demand.

LMGT 1393 Special Topics in Logistics and Materials Management-Strategic Intermodal Transportation

Prerequisite: Department Approval

Credit: 3 (3 lecture)

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.

LMGT 2334 Principles of Traffic Management

Credit: 3 (3 lecture)

A study of the role and functions of a transportation traffic manager within a commercial or public enterprise. Includes training in rate negotiation, carrier and mode selection, carrier service evaluation, quality control, traffic pattern analysis, documentation for domestic and international shipments, claims, hazardous materials movement, and the state, federal, and international environments of transportation.

MATH 0101 Developmental Math

Credit: 1 (1 lecture)

An individualized curriculum intended for students who have completed the college developmental math sequence through MATH 0312, but have yet to demonstrate achievement of the appropriate standard or department chair. Counselor's approval required.

MATH 0102 Basic Mathematics

Prerequisite: Appropriate assessment score or Counselor's or department chair approval required

Credit: 1 (1 lecture)

Designed for students who have tested below MATH 0306 and require a self-paced presentation of the basic operations in whole numbers.

MATH 0106 Fundamentals of Math I Bridge

Prerequisite:

Credit: 1 (1 lecture)

Intensive help and preparatory course for those who have not successfully passed MATH 0306.

MATH 0108 Fundamentals of Math II Bridge

Prerequisite: Credit: 1 (1 lecture)

Intensive help and preparatory course for those who have not successfully passed MATH 0308.

MATH 0112 Intermediate Algebra Bridge

Credit: 1 (1 lecture)

Intensive help and preparatory course for those who have not successfully passed MATH 0312.

MATH 0306 Fundamentals of Mathematics I

Prerequisites: Must be placed into MATH 0306 (or higher).

Credit: 3 (3 lecture)

Topics include fundamental operations in whole numbers, fractions and decimals, percents, ratios, and proportion, descriptive statistics, and an introduction to the real numbers. All students who enroll in this course are expected to complete Math 0308, and Math 0312 in the following consecutive semesters before attempting their first college-level mathematics course (usually Math 1314 College Algebra). A departmental final examination must be passed in order to pass the course.

MATH 0308 Fundamentals of Mathematics II

Prerequisites: Must be placed into MATH 0308 (or higher) or completion of MATH 0306.

Credit: 3 (3 lecture)

Topics include real numbers, basic geometry, polynomials, factoring, linear equations, and inequalities quadratic equations, and rational expressions. A departmental final examination must be passed in order to pass the course.

MATH 0312 Intermediate Algebra

Prerequisites: Must be placed into MATH 0312 (or higher) or completion of MATH 0308.

Credit: 3 (3 lecture, 1 lab)

Topics include factoring techniques, radicals, algebraic fractions, complex numbers, graphing linear equations and inequalities, quadratic equations, system of equations, graphing quadratic equations, and an introduction to functions. Emphasis is placed on algebraic techniques in order to successfully complete Math 1314 College Algebra. A departmental final examination must be passed in order to pass this course.

MATH 1314 College Algebra

Prerequisites: Must be placed into college-level mathematics or completion of MATH 0312.

Credit: 3 (3 lecture)

Topics include quadratics, polynomial, rational, logarithmic and exponential functions, system of equations, progression, sequences and series, matrices and determinants. A departmental final examination will be given in this course. Core Curriculum Course.

MATH 1316 Plane Trigonometry

Prerequisites: MATH 1314; Must be placed into college-level mathematics.

Credit: 3 (3 lecture)

Topics include solutions of triangles, Euler identity, graphing of trigonometric and inverse trigonometric functions, identities, trigonometric equations and an introduction to vector analysis. Core Curriculum Course.

MATH 1324 Finite Mathematics with Applications

Prerequisites: MATH 1314; Must be placed into college-level mathematics.

Credit: 3 (3 lecture)

A survey of finite mathematics and its application to problems of business and the natural and social sciences. Topics include set theory, probability, an introduction to matrices, linear programming, and an introduction to statistics. Core Curriculum Course.

MATH 1325 Elements of Calculus with Applications

Prerequisites: MATH 1314; Must be placed into college-level mathematics.

Credit: 3 (3 lecture)

A survey of differential and integral calculus including the study of functions and graphs from a calculus viewpoint as applied to problems in business and the natural and social sciences. Core Curriculum Course.

MATH 1332 Mathematics for Liberal Arts

Prerequisite: Must be placed into college-level mathematics or completion of MATH 0312.

Credit: 3 (3 lecture)

Mathematics for Liberal Arts is a course designed for liberal and fine arts, non-mathematics, non-science, and non-business majors. The course provides students with an appreciation of the history, art, beauty of mathematics in the world around us. Topics include an examination of sets with applications, probability, and statistics, financial management, mathematical modeling, and fundamentals of geometry and its application Core Curriculum Course.

MATH 1342 Statistics

Prerequisite: MATH 1314; Must be placed into college-level mathematics.

Credit: 3 (3 lecture)

Topics include histograms, probability, binomial and normal distributions and their applications, correlation and prediction, and tests of statistical hypotheses. Core Curriculum Course.

MATH 1350 Mathematics for Elementary Teachers I

Prerequisite: Math 1314 or equivalent; Must be placed into college-level mathematics.

Credit: 3 (3 lecture)

Concepts of sets, functions, numeration systems, number theory, and properties of the natural numbers, integers, rational, and real numbers systems with an emphasis on problem-solving and critical thinking. Field of Study Course.

MATH 1351 Mathematics for Elementary Teachers II

Prerequisite: MATH 1314 or equivalent; Must be placed into college-level mathematics.

Credit: 3 (3 lecture)

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. Field of Study Course.

MATH 2305 Discrete Mathematics

Prerequisite: MATH 2318

Credit: 3 (3 lecture)

Topics selected from logic, set theory, combinatories and graph theory. Core Curriculum Course.

MATH 2318 Linear Algebra

Prerequisite: MATH 2413

Credit: 3 (3 lecture)

Topics include systems of linear equations, vector spaces, matrices, linear mappings, and determinants. Core Curriculum Course.

MATH 2320 Ordinary Differential Equations

Prerequisite: MATH 2414

Credit: 3 (3 lecture)

Topics include initial value problems for first order and linear second order equations, Picard iteration, series solutions, boundary value problems, Laplace transforms and numerical methods. Core Curriculum Course.

MATH 2412 Precalculus

Prerequisite: MATH 1314 and MATH 1316 or Department Approval

Credit: 4 (4 lecture)

Topics include elementary theory of functions and equations, analytic geometry, vectors, introductory logic, mathematical induction, sequences and finite series. Core Curriculum Course.

MATH 2413 Calculus I

Prerequisite: MATH 2412 or consent of the Department Chair

Credit: 4 (4 lecture)

An integrated study of differential calculus with analytic geometry including the study of functions, limits, continuity, differentiation, and an introduction to integration. Core Curriculum Course.

MATH 2414 Calculus II

Prerequisite: MATH 2413

Credit: 4 (4 lecture)

Integral calculus including discussions of transcendental functions, applications of integration, techniques and improper integrals, infinite series, Taylor series, plane curves, and polar coordinates. Core Curriculum Course.

MATH 2415 Calculus III

Prerequisite: MATH 2414

Credit: 4 (4 lecture)

A survey of advanced topics in calculus including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, Jacobians, divergence and Stoke's theorems. Core Curriculum Course.

MCHN 1201 Beginning Machine Shop

Credit: 2 (1 lecture, 2 lab)

Fundamental machine shop safety, math, measurement, and theory of saws and drill presses.

MCHN 1211 Basic Lathe I

Prerequisite/Corequisite: MCHN 1201

Credit: 2 (1 lecture, 2 lab)

Introduction to the common types of lathes. Emphasis on basic parts, nomenclature, lathe operations, safety, machine mathematics, blueprint reading, and theory.

MCHN 1214 Milling Machine I

Prerequisite/Corequisite: MCHN 1201

Credit: 2 (1 lecture, 2 lab)

Introduction to the common types of milling machines, basic parts, safety, and nomenclature of basic machine operations and procedures. Includes an introduction to machine mathematics, blueprint reading, and theory.

MCHN 1217 Machining I

Prerequisite/Corequisite: MCHN 1201

Credit: 2 (1 lecture, 2 lab)

Introductory course that assists the student in understanding the machinist occupation in industry. Machine terminology, theory, part layout, and bench work using common measuring tools is included. Emphasis on shop safety, housekeeping, and preventative maintenance.

MCHN 1220 Basic Lathe II

Prerequisite/Corequisite: MCHN 1211

Credit: 2 (1 lecture, 2 lab)

Continuation to the introduction of common types of lathes. Emphasis on basic parts, nomenclature, lathe operations, safety, machine mathematics, blueprint reading, and theory.

MCHN 1221 Milling Machine II

Prerequisite/Corequisite: MCHN 1214

Credit: 2 (1 lecture, 2 lab)

Continuation of Milling Machine I including the common types of milling machines, basic parts, safety, and nomenclature of basic machine operations and procedures.

MCHN 1230 Statistical Process Control for Machinist

Credit: 2 (2 lecture)

An introduction to statistical process control used by machinist and machine operators. Analyze the data collected from work pieces.

MCHN 1291 Special Topics in Machinist/ Machine Technologist

Prerequisite/Corequisite: MCHN 1221

Credit: 2 (1 lecture, 3 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

MCHN 1391 Special Topics in Machinist/

Course Descriptions

Machine Technologist

Prerequisite: Department Approval

Credit: 3 (3 lecture)

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.

MCHN 1453 Sheet Metal III

Credit: 4 (3 lecture, 2 lab)

An introduction to the principles of air flow as applied to HVAC air distribution systems in addition to the components of HVAC and the basic refrigeration cycle. Introduction to welding, brazing, and field measurements. Application of extensive triangulation layout and fabrication and fiberglass duct work.

MCHN 2230 Milling Machine III

Prerequisite/Corequisite: MCHN 1221

Credit: 2 (1 lecture, 2 lab)

Advanced study of milling machine operations using specialty cutters and accessories.

MCHN 2231 Advanced Engine Lathe I

Prerequisite/Corequisite: MCHN 1220

Credit: 2 (1 lecture, 2 lab)

Study of advanced lathe operations. Use of special cutting tools and support tooling, such as form tools, carbide inserts, taper attachments, follower and steady rest.

MCHN 2234 Tools and Fixtures I

Prerequisite/Corequisite: MCHN 1201

Credit: 2 (1 lecture, 2 lab)

Advanced course in the designing and building of special tools, such as jigs, fixtures, punch press dies, and molds.

MCHN 2235 Advanced Engine Lathe II

Prerequisite/Corequisite: MCHN 2231

Credit: 2 (1 lecture, 2 lab)

Continuation in the advanced study of advanced lathe operations. Use of special cutting tools and support tooling, such as form tools, carbide inserts, taper attachments, follower and steady rest. Close tolerance machining required.

MCHN 2238 Milling Machine IV

Prerequisite/Corequisite: MCHN 2230

Credit: 2 (1 lecture, 2 lab)

Continuation of Milling Machine III using specialty cutters and accessories.

MCHN 2239 Tools and Fixtures II

Prerequisite/Corequisite: MCHN 2234

Credit: 2 (1 lecture, 2 lab)

Machining and assembling of a production tool, using conventional machine shop equipment. Application of production tool theory, care, and maintenance.

MDCA 1213 Medical Terminology

Credit: 2 (2 lecture)

A study and practical application of a medical vocabulary system. Includes structure, recognition, analysis, definition, spelling, pronunciation, and combination of medical terms from prefixes, suffixes, roots, and combining forms.

MDCA 1254 Certified Medical Assisting Exam Review

Corequisite: MDCA 1360 or Department Approval

Credit: 1 (1 lecture, 2 lab))

A preparation for the Certified Medical Assisting Exam, including a review of all three components of the CMA exam. Presents an explanation of how the exam is scored and provides opportunities to take practice exams.

MDCA 1305 Medical Law and Ethics

Credit: 3 (3 lecture)

Instruction in principles, procedures, and regulations involving legal and ethical relationships among physicians, patients, and medical assistants. Includes current ethical issues and risk management as they relate to the practice of medicine and fiduciary responsibilities.

MDCA 1313 Medical Terminology

Credit: 3 (3 lecture)

A study and practical application of a medical vocabulary system. Includes structure, recognition, analysis, definition, spelling, pronunciation, and combination of medical terms from prefixes, suffixes, roots, and combining forms.

MDCA 1321 Administrative Procedures

Credit: 3 (2 lecture, 3 lab)

Medical office procedures including appointment scheduling, medical records creation and maintenance, phone communications, financial processes, coding, billing, collecting, third party reimbursement, credit arrangements, and computer use in the medical office.

MDCA 1343 Medical Insurance

Credit: 3 (2 lecture, 2 lab)

Emphasizes accurate ICD-9 and CPT coding of office procedures for payment/ reimbursement by patient or third party and prevention of insurance fraud. Additional topics may include managed care or medical economics.

MDCA 1352 Medical Assistant Laboratory Procedures

Credit: 3 (2 lecture, 4 lab)

Procedures depicted in the Current Clinical Laboratory Improvement Act (CLIA). Includes blood collection, specimen handling, basic urinalysis, identification of normal ranges, quality assurance, and quality control. May include electrocardiography.

MDCA 1360 Clinical- Medical/Clinical Assistant

Prerequisites: Successful completion of core courses and Department Chair approval

Credit: 3 (18 hours externship per week)

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.

MDCA 1391 Special Topic: Medical assistant-Communication Skills in Ambulatory Care

Prerequisite: Department Approval

Credit: 3 (3 lecture)

Topics in this course address basic psychological principles and procedures for self-understanding and social adaptability in interpersonal communications with patients, and co-workers in the ambulatory care setting.

MDCA 1391 Special Topic: Medical Assistant- Ambulatory Care Emergency Procedures

Prerequisite: Department Approval

Credit: 3 (2 lecture, 3 lab)

Topics in this course address current procedures and protocols for management of emergency situations in ambulatory care settings including CPR for adult, infant and youth, visual and auditory screening techniques.

MDCA 1409 Anatomy and Physiology for Medical Assistants

Credit: 4 (4 lecture)

Emphasis on normal human anatomy and physiology of cells, tissues, organs, and systems with overview of common pathophysiology.

MDCA 1417 Procedures in a Clinical Setting

Credit: 4 (3 lecture, 3 lab)

Emphasis on patient-centered assessment, examination, intervention, and treatment as directed by physician. Includes vital signs, collection and documentation of patient information, asepsis, minor surgical procedures, and other treatments as appropriate for the medical office.

MDCA 1448 Pharmacology and Administration of Medications

Credit: 4 (2 lecture, 4 lab)

Instruction in concepts and application of pharmacological principles. Focuses on drug classifications, principles and procedures of medication administration, mathematical systems and conversions, calculation of drug problems, and medico-legal responsibilities of the medical assistant.

MLAB 1166 Practicum I (or Field Experience)- Clinical/Medical Laboratory Technician (Hematology)

Prerequisite: Department Approval

Credit: 1 (10 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

MLAB 1167 Practicum II (or Field Experience) - Clinical/Medical Laboratory Technician (Blood Banking)

Prerequisite: Department Approval

Credit: 1 (10 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

MLAB 1201 Introduction to Clinical Laboratory Science

Credit: 2 (1 lecture, 3 lab)

An introduction to clinical laboratory science, including quality control, laboratory math, safety, basic laboratory equipment, laboratory settings, accreditation, certification, professionalism, and ethics.

MLAB 1211 Urinalysis and Body Fluids

Credit: 2 (1 lecture, 4 lab)

An introduction to urinalysis and body fluid analysis, including the anatomy and physiology of the kidney, and physical, chemical and microscopic examination of urine, cerebrospinal fluid, and other body fluids..

MLAB 1227 Coagulation

Credit: 2 (1 lecture, 4 lab)

A course in coagulation theory, procedures, and practical applications. Includes laboratory exercises which rely on commonly performed manual and semiautomatic methods.

MLAB 1231 Parasitology/Mycology

Credit: 2 (1 lecture, 4 lab)

A study of the taxonomy, morphology, and pathogenesis of human parasites and fungi, including the practical application of laboratory procedures.

MLAB 1235 Immunology/Serology

Credit: 2 (1 lecture, 4 lab)

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.

MLAB 1266 Practicum III (or Field Experience) - Clinical/Medical Laboratory Technician (Chemistry, Urinalysis/Body Fluids)

Prerequisite: Department Approval

Credit: 2 (15 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

MLAB 1267 Practicum IV (or Field Experience) Clinical/Medical Laboratory Technician (Microbiology/Parasitology)

Prerequisite: Department Approval

Credit: 2 (15 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

MLAB 1270 Hematology I

Credit: 2 (1 lecture, 4 lab)

Introduction to the theory and practical application of routine and special hematology procedures, both manual and automated, red blood cells and white blood cells maturation sequences, and normal and abnormal morphology and associated diseases. This course is the first part of a two-part course and concentrates on red cell disorders

MLAB 1271 Hematology II

Prerequisite: MLAB 1270

Credit: 2 (1 lecture, 4 lab)

Introduction to the theory and practical application of routine and special hematology procedures, both manual and automated, red blood cells and white blood cells maturation sequences, and normal and abnormal morphology and associated diseases. This course is the first part of a two-part course and concentrates on white blood cell disorders.

MLAB 1371 Registry Review

Credit: 3 (3 lecture)

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

MLAB 2264 Practicum v (or Field Experience) Clinical/Medical Laboratory Technician

Prerequisite: Department Approval

Credit: 2 (14 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

MLAB 2270 Clinical Chemistry I

Credit: 2 (1 lecture, 4 lab)

An introduction to the principles and procedures of various tests performed on Clinical Chemistry. Presents the physiological basis for the test, the principle and procedure for the test, and the clinical significance of the test results, including quality control and normal values. Also includes basic chemical laboratory technique, chemical laboratory safety, electrolytes and acid-base balance, proteins, carbohydrates, lipids and NPNs.

MLAB 2271 Clinical Chemistry II

Prerequisite: MLAB 2270

Credit: 2 (1 lecture, 4 lab)

An introduction to the principles and procedures of various tests performed in Clinical Chemistry. Presents the physiological basis for the test, the principle and procedure for the test, and the clinical significance of the test results, including quality control and normal values. Also includes basic chemical laboratory technique, chemical laboratory safety, electrolytes and acid-base balance, enzymes, cardiac, pancreatic, and liver function, vitamins and endocrinology.

MLAB 2431 Immunohematology

Prerequisite: MLAB 1235

Credit: 4 (3 lecture, 4 lab)

A study of blood antigens and antibodies. Performance of routine blood banking procedures, including blood group and Rh typing, antibody screens, antibody identification, cross matching, elution, and absorption techniques.

MLAB 2434 (Clinical) Microbiology

Prerequisite: BIOL 2420

Credit: 4 (3 lecture, 4 lab)

Instruction in the theory, practical application, and pathogenesis of clinical microbiology, including collection, setup, identification, susceptibility testing, and reporting procedures.

Course Descriptions

MLSC 1210 Military Leadership I

Prerequisite: Contact UH Army ROTC

Credit: 2 (2 lecture)

Open to all students. No military commitment is required. Principles of effective leadership; reinforcement of self-confidence through participation in physically and mentally challenging training with upper division ROTC students; development of communication skills to improve individual performance and group interaction. Relate ethical values to the effectiveness of leadership. Survival skills and self-defense. Cooperative program with the University of Houston Army ROTC department.

MLSC 1220 Military Leadership II

Prerequisite: MLSC 1210

Credit: 2 (2 lecture)

Continuation of MLSC 1210. Cooperative program with the University of Houston Army ROTC department.

MLSC 2210 Military Leadership Development I

Prerequisite: MLSC 1220.

Credit: 2 (2 lecture)

Characteristics of leadership, problem analysis, decision making, oral presentations, first aid, small unit tactics, land navigation, basic radio communication, marksmanship, fitness training, rappelling. Fitness training required three times per week in addition to class and lab. Cooperative program with the University of Houston Army ROTC department.

MLSC 2220 Military Leadership Development II

Prerequisite: MLSC 2210.

Credit: 2 (2 lecture)

Continuation of MLSC 2210. Cooperative program with the University of Houston Army ROTC department.

MRKG 1302 Principles of Retailing

Credit: 3 (3 lecture)

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

Credit: 3 (3 lecture)

Introduction to the marketing functions: identification of consumer and organizational needs; explanation of economic, psychological, sociological, and global issues; and description and analysis of the importance of marketing research.

MRKG 1313 Public Relations

Credit: 3 (3 lecture)

Exploration of theories, techniques, and processes of public relations including means of influencing methods of building good will, analysis of media, obtaining publicity, and implementation of public relations programs.

MRKG 1391 Special Topics in Business Marketing/Marketing Management

Credit: 3 (3 lecture)

Topic addresses 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.

MRKG 2312 e-Commerce

Credit: 3 (3 lecture)

Explore electronic tools utilized in marketing; focus on marketing communications in developing customer relationships.

MRKG 2333 Principles of Selling

Credit: 3 (3 lecture)

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.

MRKG 2348 Marketing Research and Strategies

Credit: 3 (3 lecture)

A simulated marketing environment for epxerience in marketing decision-making. Provides practical experiences in analyzing marketing cases. Includes dynamic interrelationships among marketing price, channels of distribution, promotion, and product responsibility.

MRKG 2349 Advertising and Sales Promotion

Credit: 3 (3 lecture)

Integrated marketing communications. Includes advertising principles and practices. Emphasizes multi-media of persuasive communication including buyer behavior, budgeting, and regulatory constraints.

MRKG 2371 Services Marketing

Prerequisite: MRKG 1311

Credit: 3 (3 lecture)

An analysis of the principles, methods and problems of marketing for both professional and consumer services. A study of competition, customer service, services design, pricing, services promotion and distribution strategies.

MRKG 2372 Consumer Behavior

Credit: 3 (3 lecture)

A study of buyer motives, reference groups, social class, culture, and family and social interrelationships are examined.

MRKG 2373 Services Promotion

Credit: 3 (3 lecture)

Principles and practices of services promotion including public relations, image advertising, proposal writings, sales presentation design, media planning, public relations campaign planning, lobbying, crisis management, positioning, services selling and event planning are discussed.

MRKG 2374 Marketing Case Studies

Credit: 3 (3 lecture)

A study of marketing problems and challenges through the use of case histories and actual marketing situations involving advertising, prices, distribution, product selection, client or consumer behavior, marketing training, market segmentation and international marketing.

MRKG 2380 Cooperative Education - Marketing/Marketing Management, General

Prerequisites: Department Approval and MRKG 1311

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

MRKG 2381 Cooperative Education-Business Marketing/Marketing Management

Prerequisites: Department Approval and MRKG 1311

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

MRMT 1307 Medical Transcription I

Prerequisites: MDCA 1313, POFT 1329

Credit: 3 (2 lecture, 3 lab)

Fundamentals of medical transcription with hands-on experience in transcribing physician dictation including basic reports such as history and physicals, discharge summaries, consultations, operative reports, and other medical reports. Utilizes transcribing and information processing equipment compatible with industry standards. Designed to develop speed and accuracy.

MUAP courses Numbered 11xx, 12xx, are Freshman level, one-half hour lesson and one-hour lessons per week, respectively.
Half-hour lessons require six practice hours per week; hour lessons, ten practice hours per week. Hour lessons may be divided into two 30-minute lessons per week by mutual consent of the student and the instructor. Lessons may be repeated (maximum 7 times in any combination) with permission of the respective department heads and are required of appropriate majors(s). Juries are required. Students provide all instruments but piano and percussion equipment. A MUSI co-requisite is required. Private instruction is offered to music majors only. Half-hour lessons earn 1 credit (1 lecture). Hour lessons earn 2 credits (2 lecture).

MUAP Courses Numbered 21xx, 22xx, are Sophomore level, one-half hour and one-hour lessons per week respectively.
Half-hour lessons require six practice hours per week; hour lessons, ten practice hours per week. Hour lessons may be divided into two 30-minute lessons per week by mutual consent of the student and the instructor. Lessons may be repeated (maximum 7 times in any combination) with permission of the respective department heads and are required of appropriate majors(s). Juries are required. Students provide all instruments but piano and percussion equipment. A MUSI co-requisite is required. Private instruction is offered to music majors only. Half-hour lessons earn 1 credit (1 lecture). Hour lessons earn 2 credits (2 lecture).

MUAP 1101, 1201, 2101, 2201. Violin.
MUAP 1105, 1205, 2105, 2205. Viola.
MUAP 1109, 1209, 2109, 2209. Cello.
MUAP 1113, 1213, 2113, 2213. Bass.
MUAP 1115, 1215, 2115, 2215.Electric Bass.
MUAP 1117, 1217, 2117, 2217.Flute/Piccolo.
MUAP 1121, 1221, 2121, 2221.Oboe, English Horn.
MUAP 1125, 1225, 2125, 2225. Bassoon.
MUAP 1129, 1229, 2129, 2229. Clarinet.
MUAP 1133, 1233, 2133, 2233. Saxophone.
MUAP 1137, 1237, 2137, 2237.Trumpet/ Coronet.
MUAP 1141, 1241, 2141, 2241. French Horn.
MUAP 1145, 1245, 2145, 2245. Trombone.
MUAP 1149, 1249, 2149, 2249.Euphonium/ Baritone.
MUAP 1153, 1253, 2153, 2253. Tuba.
MUAP 1157, 1257, 2157, 2257. Percussion.
MUAP 1161, 1261, 2161, 2261. Guitar
MUAP 1165, 1265, 2165, 2265. Organ.
MUAP 1169, 1269, 2169, 2269. Piano.
MUAP 1173, 1273, 2173, 2273.Electronic Keyboard.
MUAP 1177, 1277, 2177, 2277. Harp.
MUAP 1181, 1281, 2181, 2281. Voice.
MUAP 1185, 1285, 2185, 2285.Improvisation.
MUAP 1187, 1287, 2187, 2287. Special Topics - Strings.
MUAP 1188, 1288, 2188, 2288. Special Topics - Percussion.
MUAP 1189, 1289, 2189, 2289. Special Topics - Keyboard.
MUAP 1190, 1290, 2190, 2290 Special Topics - Voice.
MUAP 1292, 2292. Arranging and Composition.

MUSB 1191 Special Topics in Music Business Management and Merchandising
Credit: 1 (1 lecture)
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. Learning outcomes/objectives are determined by local occupational need, and business and industry trends.

MUSB 1305 Survey of the Music Business
Credit: 3 (3 lecture)
An overview of the music industry including song writing, live performance, the record industry, music merchandising, contracts and licenses, and career opportunities.

MUSB 1341 Concert Promotion and Venue Management
Suggested Prerequisite: MUSB 1305
Credit: 3 (3 lecture)
A course in the basics of concert promotion and venue management including considerations in purchasing a club; concert promotion and advertising; talent buying; city codes; insurance; Texas Alcoholic Beverage Commission Regulation; American Society of Composers, Arrangers, and Publishers (ASCAP/BMI) licenses; personnel management; and concert production and administration.

MUSB 1391 Special Topics in Music Business Management and Merchandising
Suggested Prerequisite: MUSB 1305
Credit: 3 (3 lecture)
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.

MUSB 2301 Music Marketing and Merchandising
Suggested Prerequisite: MUSB 1305
Credit: 3 (3 lecture)
A study of the methods of distribution, retailing, and wholesaling. Topics include the basics of purchasing, inventory control, shipping and receiving, returns, pricing and cost analysis, merchandising, retail display, sales promotion, advertising, security and shrinkage, personnel management, and relationships between retailers and distributors.

MUSB 2305 Music Publishing
Suggested Prerequisite: MUSB 1305
Credit: 3 (3 lecture)
A study of the administrative and marketing aspects of music publishing including the application of current copyright law, developing song writers, rights exploration, and royalty collection.

MUSB 2309 The Record Industry
Suggested Prerequisite: MUSB 1305
Credit: 3 (3 lecture)
Overview of the record industry and the organization of large and small record companies. Emphasizes record company functions such as artist and repertoire (A & R), promotion, marketing, business affairs, and administration and distribution including Internet-based distribution.

MUSB 2345 Live Music and Talent Managemet
Suggested Prerequisite: MUSB 1305
Credit: 3 (3 lecture)
An examination of the role, scope, and activities of the talent manager including establishing the artist/manager relationship; planning the artist's career; and developing goals, strategies, and tactics with an overall view of the live music business.

MUSB 2355 Legal Aspects of the Entertainment Industry
Credit: 3 (3 lecture)
Copyright law and the various agreements used in the entertainment industry. Emphasizes contracts used by music publishers, record companies, artist managers, record producers, film and television producers, and booking agencies.

Course Descriptions

MUSB 2380 Cooperative Education - Music Business Management and Merchandising

Suggested Prerequisite: 12 hrs. of MUSB and Department Approval

Credit: 3 (1 lecture, 20 lab)

Career related activities encountered in the student's area of specialization are offered through an individualized agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

MUSB 2381 Cooperative Education - Music Management and Merchandising

Suggested Prerequisite: 12 hrs. of MUSB and Department Approval

Credit: 3 (1 lecture 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

MUSC 1249 Applied Music: Conducting

Suggested Prerequisite: Commercial Music Theory I and II

Credit: 2 (1 lecture, 4 lab)

Private lessons in conducting. Development of technique through the practice of basic beat patterns, beginning beats, gesturing, and cueing. Emphasis on score reading and knowledge of musical terminology.

MUSC 1309 Conducting Class

Suggested Prerequisite: MUSC 1217

Credit: 3 (2 lecture, 2 lab)

Introduction to the art of conducting including regular and irregular beat patterns, subdivision, and beat pattern varieties applied to musical literature and practical experience.

MUSC 1321 Songwriting

Credit: 3 (3 lecture)

Introduction to techniques of writing marketable songs including the writing of lyrics and melodies, setting lyrics to music, developing lyrical and musical 'hooks,' analyzing the marketplace, and developing a production plan for a song demo.

MUSC 1323 Audio Electronics

Credit: 3 (2 lecture, 4 lab)

Basic concepts in electricity, Ohm's Law, circuit analysis and troubleshooting audio problems. Topics include soldering techniques, audio electronic alignment procedures for tape machines, console maintenance, and sound reinforcement equipment maintenance.

MUSC 1330 Computer Music Notation I

Suggested Prerequisite: MUSC 1215 and basic computer skills

Credit: 3 (1 lecture, 4 lab)

Survey of music notation software and applications with skill development in computer music notation.

MUSC 1331 MIDI I

Credit: 3 (2 lecture, 4 lab)

An overview of the Musical Instrument Digital Interface (MIDI) system and applications. Topics include the history and evolution of MIDI, hardware requirements, computer numbering systems, channels and modes, the MIDI language, and typical implementation of MIDI applications in the studio environment using software-based sequencing programs. Students are required to attend additional lab hours outside of class.

MUSC 1392 Special Topics in Music History and Literature

Credit: 3 (3 lecture)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relative to the professional development of the student.

MUSC 1427 Audio Engineering I

Credit: 4 (3 lecture, 4 lab)

Overview of the recording studio. Topics include basic studio electronics and acoustic principles, waveform analysis, microphone design and placement techniques, studio set up and signal flow, recording console theory, signal processing concepts, tape machine principles and operation, and an overview of mixing and editing. Students are required to attend additional lab hours outside of class.

MUSC 2141 Forum/Recital

Credit: 1 (1 lecture)

Stylistic analysis of commercial music performances presented by students, faculty, and guest artists.

MUSC 2201 Audio Engineering Practices

Corequisite: MUSC 2448, 2457 or 2458

Prerequisite: MUSC 2447, RTVB 2232

Credit: 2 (1 lecture, 4 lab)

Application of the concepts and techniques presented in Audio Engineering I and II. (May be repeated three times for credit. Students are required to attend additional lab hours outside of class.)

MUSC 2214 Improvisation Theory I

Credit:2 (2 lecture, 1 lab)

A study of the chordal structures of jazz, rock, country, and fusion with emphasis on extemporaneous performance.

MUSC 2230 Commercial Music Arranging and Composition

Suggested Prerequisite: MUSC 2213 and MUSC 1321

Credit: 2 (1 lecture, 4 lab)

Presentation of arranging and composition for projects in industry recognized genres including song writing, show writing, video, and film.

MUSC 2234 Improvisation Theory II

Suggested Prerequisite: MUSC 2214

Credit: 2 (2 lecture, 1 lab)

A continuation of the study of chordal structures of jazz, rock, country, and fusion with emphasis on extemporaneous performance.

MUSC 2249 Applied Music: Conducting II

Suggested Prerequisite: MUSC 1249

Credit: 2 (1 lecture, 4 lab)

Advanced private lessons in conducting. Continues development of conducting techniques, score reading abilities, and study of musical terminology.

MUSC 2319 Orchestration

Credit: (3 lecture)

Exploration of writing for voices and instruments to include ranges, transportation, and idiosyncrasies of each instrument with emphasis on commercial music chord voicings.

MUSC 2345 Synthesis II

Prerequisite: MUSC 1331

Credit: 3 (2 lecture, 4 lab)

Course emphasizes technology that integrates MIDI sequencing with digital audio. Topics include computer based hard disk recording systems, MIDI machine control, advanced techniques in synthesizer editing, digital transfers of audio data and CD mastering. The student will demonstrate advanced skill in FM and hybrid synthesis techniques; explain and utilize digital sampling; complete projects using advanced synthesis techniques; and edit samples and synthesizer voices. Students are required to attend additional lab hours outside of class.

MUSC 2350 Computer Music Notation II

Suggested Prerequisite: MUSC 1330

Credit: 3 (1 lecture, 4 lab)

Study and practices in music notation software at a professional level, including large score notation.

MUSC 2351 Audio for Video

Prerequisites: RTVB 2430, RTVB 2355

Credit: 3 (2 lecture, 4 lab)

This course explores the technology, techniques and requirements for adding additional audio soundtracks to raw video and film footage. The course also strengthens skills in advanced

audio production techniques for video production. Topics include synchronization, SMPTE time code, automated mixdown, audio post production for video, nonlinear and traditional editing techniques, sound design, Foley stage work, sound effects and dialog sweetening or replacement.

MUSC 2355 MIDI II

Prerequisite: MUSC 1331

Credit: 3 (2 lecture, 4 lab)

A continuation of MIDI I with emphasis on advanced sequencer operation, and SMPTE-based synchronization in the interaction of multiple recording and playback systems.

MUSC 2427 Audio Engineering II

Prerequisite: MUSC 1427 and MUSC 1331

Credit: 4 (3 lecture, 2 lab)

Major topics include the recording process, microphones and placement techniques, audio console operation, multitrack recording and signal processors. Audio software includes Pro Tools and Digital Performer, Spark and Peak audio editors, Toast and Jam CD editors, Acid looping software. Students learn basic tracking techniques, studio set up and break down and participate in 32 hours of recording sessions. Students are required to attend additional lab hours outside of class.

MUSC 2433 Scoring for Video and Film

Credit: 4 (3 lecture, 4 lab)

Using Digital Performer and a variety of digital mixers, samplers, sound modules and synthesizers, students learn to integrate MIDI sequencing and digital audio with video productions.

MUSC 2447 Audio Engineering III

Prerequisite: MUSC 2427, RTVB 1240 and MUSC 2355

Credit: 4 (3 lecture, 4 lab)

Procedures and techniques in recording and mixing audio. Topics include I/O style console operation, hard disk based digital audio editing, modular digital multitrack recording, and engineering project completions. Principles of acoustics, sound in recording, and sound reinforcement. Topics include acoustical properties of studios, live performance facilities, resonance, and electronic and acoustic control. Students complete their own project during recording sessions through out the semester. Students are required to attend additional lab hours outside of class.

MUSC 2448 Audio Engineering IV

Credit: 4 (3 lecture, 3 lab)

Examination of the role of the producer including recording, mixing, arranging, analyzing projects, session planning, communications, budgeting, business aspects, technical consideration, and music markets. Students are required to attend additional lab hours outside of class.

MUSC 2457 Audio Engineering V

Prerequisite: MUSC 2448, 2201, 2355

Credit: 4 (3 lecture, 4 lab)

Analysis and practice of the operation of a large format, computer-automated analog mixing console. Includes console's signal flow and operation as they pertain to tracking.

MUSC 2458 Audio Engineering VI

Prerequisite: MUSC 2457, 2201

Credit: 4 (3 lecture, 4 lab)

Analysis and practice in the operation of a large format, computer-automated analog mixing console. Includes console's signal flow and operation as they pertain to mixing.

MUSI 1131 Special Topics Ensemble I

Credit: 1 (0 lecture, 3 lab)

Group master class for piano, voice, or instruments. Open to all students. May serve as corequisite for MUAP courses.

MUSI 1135 Jazz Ensemble I

Prerequisite: Department Approval

Credit: 1 (0 lecture, 3 lab)

Small ensemble specializing in jazz improvisation and performance.

MUSI 1139 Chamber Music I

Prerequisite: Department Approval

Credit: 1 (0 lecture, 3 lab)

Small ensemble concentrating on vocal and/or instrumental chamber music.

MUSI 1140 Music Forum I

Credit: 1 (1 lecture)

Emphasis on faculty and student recitals, stylistic interpretation of commercial music forms. Seminar discussions, lectures and demonstrations by music industry representatives and artists.

MUSI 1159 Musical Theatre I

Credit: 1 (0 lecture, 4 lab)

Study and performance of literature from musical theatre, including operetta, reviews and musical comedy, basic vocal and movement skills. Performance and rehearsals required. Open to all students by audition.

MUSI 1160 Italian Diction for Singers

Credit: 2 (1 lecture, 1 lab)

Study of Italian phonetic sounds to promote ability to sing the language. Open to all vocal students. May be repeated.

MUSI 1161 English Diction for Singers

Credit: 2 (1 lecture, 1 lab)

Study of phonetic sounds of English to promote ability to sing the language. Open to all vocal students. May be repeated.

MUSI 1163/1164 Improvisation I & II

Credit: 1 (0 lecture, 3 lab)

A study of the chordal structures of jazz with emphasis on extemporaneous performance (improvisation). Some emphasis on the development of a repertory of standard jazz harmonic patterns. Open to all students with Department Approval.

MUSI 1166 Instrument Class: Woodwind

Credit: 1 (0 lecture, 3 lab)

Class instruction in woodwind instruments. A skills course. May be repeated. Open to all students.

MUSI 1168 Instrument Class: Brass

Credit: 1 (0 lecture, 3 lab)

Class instruction in brass instruments. A skills course. May be repeated. Open to all students.

MUSI 1172 Instrument Class: Strings see MUSI 1190) MUSI 1181 Piano Class I

Prerequisite: MUSI 1101 or Department Approval

Credit: 1 (0 lecture, 3 lab)

Class instruction in the fundamentals of keyboard technique for beginning piano students only. A skills course. May be repeated. Required of majors. Open to non-majors.

MUSI 1182 Piano Class II

Credit: 1 (0 lecture, 3 lab)

Continuation of MUSI 1181. May be repeated. Required of majors. Open to non-majors.

MUSI 1183 Voice Class I

Credit: 1 (0 lecture, 3 lab)

Class instruction in fundamentals of singing: tone production, breath production, diction and standard music repertoire. Designed for students with little or no previous vocal training.

MUSI 1184 Voice Class II

Credit: 1 (0 lecture, 3 lab)

Continuation of MUSI 1183.

MUSI 1188 Instrument Class: Percussion

Credit: 1 (0 lecture, 3 lab)

Class instruction in percussion instruments. A skills course. May be repeated. Open to all students.

MUSI 1190 Instrument Class: Strings

Credit: 1 (0 lecture, 3 lab)

Course Descriptions

Class instruction in strings. A skills course. May be repeated. Open to all students.

MUSI 1192 Guitar Class I

Credit: 1 (0 lecture, 3 lab)

This class is designed to provide students the fundamentals of guitar, aiding them as they learn or improve their reading of music. Consult with instructor concerning instrument availability. A knowledge of music is not required, but helpful. Open to all students.

MUSI 1211 Theory I

Prerequisite: MUSI 1301 or Department Approval; Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Corequisite: MUSI 1216

Credit: 2 (2 lecture, 1 lab)

Basic music theory with emphasis on part writing of figured bass and melody harmonization requiring all diatonic triads, dominant and supertonic seventh chords, and non-harmonic tones. Keyboard study of harmonic progressions and melodic harmonizations requiring diatonic triads. Required of majors.

MUSI 1212 Theory II

Prerequisite: MUSI 1211 or Department Approval; Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Corequisite: MUSI 1217

Credit: 2 (2 lecture, 1 lab)

A continuation of MUSI 1211. Required of majors.

MUSI 1216 Elementary Ear Training I

Prerequisite: MUSI 1171 or Department Approval; Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Credit: 2 (2 lecture, 1 lab)

Singing tonal music in treble, bass, alto and tenor clefs. Aural study (including dictation) of rhythm, melody and diatonic harmony.

MUSI 1217 Ear Training/ Sight-Signing II

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Credit: 2 (2 lecture, 1 lab)

Singing tonal music in treble, bass, alto and tenor clefs. Aural study (including dictation) of rhythm, melody and diatonic harmony.

MUSI 1223 Studio Orchestra I

Credit: 2 (1 lecture, 3 lab)

Major ensemble performing contemporary styles. Open to all students with consent of director. Performances required.

MUSI 1226/2266 Symphony Orchestra

Credit: 2 (1 lecture, 2 lab)

Performance and study of chamber, symphonic and string orchestra literature. Solo opportunities for advanced performers. For experienced string players and selected woodwind, brass and percussion players. Previous orchestra experience preferred but not required.

MUSI 1227 Community College Band

Credit: 2 (1 lecture, 2 lab)

This class is designed for full or part-time students who desire to improve their performance levels on band instruments, observe rehearsal methods and techniques, and learn band organizational strategies. Performance required.

MUSI 1229 Harp Ensemble

Credit: 2 (1 lecture, 2 lab)

This class is designed for full or part-time students who desired to improve their harp ensemble performance levels, observe rehearsal methods and techniques, and learn harp ensemble organizational strategies. Performances required.

MUSI 1239 Chamber Ensemble I

Credit: 2 (1 lecture, 2 lab)

Small instrumental ensembles: wind, string, brass, percussion, piano. Designed to provide ensemble experience for instrumental majors. Open to all qualified students. Placement audition required.

MUSI 1254 Chamber Vocal Ensemble

Credit: 2 (1 lecture, 2 lab)

Madrigal or other small vocal ensemble. Open to non-majors. Performances required.

MUSI 1301 Music Fundamentals

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing. Credit: 3 (3 lecture)

An introduction to the elements of music, including study of clefs, staff, key signatures, notation, meter, and rhythm, sight singing, major and minor chords, ear training, basic keyboard harmony. Open to all students. Core Curriculum Course.

MUSI 1306 Music Appreciation

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

A foundation course in understanding and enjoyment of music through the use of recorded music and song literature. Elements of music and analysis of music form and how they relate to compositional technique are explored. Open to all students. Core Curriculum Course.

MUSI 1308 Music Literature I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

An introductory survey of the historical development of music as an art with emphasis on listening. Open to non-majors. Core Curriculum Course.

MUSI 1309 Music Literature II

Prerequisite: MUSI 1308 or Department Approval Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Continuation of MUSI 1308. Required of majors. Open to non-majors. Core Curriculum Course.

MUSI 1310 History and Literature of Recorded Music in America

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Survey of recorded music in the United States from the earliest recordings to the present, with emphasis on commercial successes. Includes discussion of the technological evolution in sound recording and of record lists. Open to all students.

MUSI 1386 Arranging and Composition I

Prerequisite: MUSI 1211 or Department Approval

Credit: 3 (3 lecture)

Discussion and practical applications in arranging and composing for various types of musical ensembles and styles. Further study in orchestration.

MUSI 2135 Jazz Ensemble II

Prerequisite: MUSI 1135

Credit: 1 (0 lecture, 3 lab)

Small ensemble specializing in jazz improvisation and performance. May be repeated for credit.

MUSI 2139 Chamber Music II

Prerequisite: MUSI 1139 or Department Approval

Credit: 1 (0 lecture, 3 lab)

Small ensemble concentrating on chamber music. May be repeated for credit.

MUSI 2140 Music Forum II

Credit: 1 (1 lecture)

Emphasis on faculty and student recitals, stylistic interpretation of commercial music forms. Seminar discussions, lectures and demonstrations by music industry representatives and artists. May be repeated for credit.

MUSI 2159 Musical Theatre II

Credit: 1 (0 lecture, 4 lab)

Study and performance of literature from musical theatre, including operetta, reviews and musical comedy, basic vocal and movement skills. Performance and rehearsals required. Open to all students by audition.

MUSI 2160 German Diction for Singers

Credit: 1 (1 lecture, 1 lab)

Study of phonetic sounds of German to promote ability to sing the language. Open to all vocal students. May be repeated.

MUSI 2161 French Diction For Singers

Credit: 1 (1 lecture, 1 lab)

Study of phonetic sounds of French to promote ability to sing the language. Open to all vocal students. May be repeated.

MUSI 2163/2164 Improvisation III and IV

Prerequisite: MUSI 1164

Credit: 1 (0 lecture, 3 lab)

A study of the chordal structures of jazz with emphasis on extemporaneous performance (improvisation). Some emphasis on the development of a repertory of standard jazz harmonic patterns.

MUSI 2181 Piano Class III

Credit: 1 (0 lecture, 3 lab)

Continuation of MUSI 1182. May be repeated. Required of majors. Open to non-majors.

MUSI 2182 Piano Class IV

Credit: 1 (0 lecture, 3 lab)

Continuation of MUSI 2181. May be repeated. Required of majors. Open to non-majors.

MUSI 2211 Theory III

Prerequisite: MUSI 1212 or Department Approval Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Corequisite: MUSI 2216

Credit: 2 (2 lecture, 1 lab)

Emphasis on part-writing, figured bass, and melody harmonization and compositional techniques using all diatonic chords, modulations, instrumental and choral styles, two- and three-part forms. Keyboard study of harmonic progressions, melody harmonizations and modulations to closely related keys. Required of majors.

MUSI 2212 Theory IV

Prerequisite: MUSI 2211 or Department Approval Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Corequisite: MUSI 2217

Credit: 2 (2 lecture, 1 lab)

Continuation of MUSI 2211. Required of majors.

MUSI 2216 Ear Training/Sight-Singing III

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Credit: 2 (2 lecture, 1 lab)

Singing more difficult tonal music, including modal, ethnic and 20th century materials. Drills in sight-singing and ear training. Aural study (including dictation) of more complex rhythm, melody, chromatic harmony and extending tertian structures.

MUSI 2217 Ear Training/Sight-Singing IV

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

Credit: 2 (2 lecture, 1 lab)

Singing more difficult tonal music, including modal ethnic and 20th century materials. Drills in sight-singing and ear training. Aural study (including dictation) of more complex rhythm, melody, chromatic harmony and extended tertian structures.

MUSI 2223 Studio Orchestra II

Prerequisite: MUSI 1223

Credit: 2 (1 lecture, 3 lab)

Major ensemble performing contemporary styles. Open to all students with consent of director. Performances required. May be repeated for credit.

MUSI 2227 Community College Band II

Prerequisite: MUSI 1227 or Department Approval

Credit: 2 (1 lecture, 2 lab)

This class is designed for full or part-time students who desire to improve their performance levels on band instruments, observe rehearsal methods and techniques, and learn band organizational strategies. Performance required. May be repeated for credit.

MUSI 2229 Harp Ensemble

Prerequisite: MUSI 1229

Credit: 2 (1 lecture, 2 lab)

This class is designed for full or part-time students who desire to improve their harp ensemble performance levels, observe rehearsal methods and techniques, and learn harp organizational strategies. Performance required. May be repeated for credit.

MUSI 2239 Chamber Ensemble II

Credit: 2 (1 lecture, 2 lab)

A continuation of MUSI 1239. Open to all qualified students. Audition required.

MUSI 2241 Community College Chorus

Credit: 2 (1 lecture, 2 lab)

This class is designed for full or part-time students who desire to improve their voice ensemble performance levels, observe rehearsal methods and techniques, and learn choir organizational strategies. Performances required. May be repeated for credit.

MUSI 2258 Opera Workshop

Prerequisite: audition or Department Approval.

Credit: 2 (1 lecture, 2 lab)

Designed to provide young singers practical operatic experience in the entire operas or operatic excerpts. May fulfill ensemble requirement for degree. May be repeated. Performance required.

MUSI 2386 Arranging and Composition II

Prerequisite: MUSI 1386

Credit: 3 (3 lecture)

Arranging and composition projects including composition and copying. Composition techniques using sound synthesis, mid-sequencing and sampling techniques. Additional projects may include song writing, show writing, jingles, video and film.

MUSP 1201 Applied Commercial Music: Arranging and Composition

Credit: 2 (1 lecture, 4 lab)

Private instruction in arranging and composition with goals related to jazz or commercial music. The student will demonstrate proficiency in commercial music repertoire and technique; develop a professional, disciplined approach to performance skills; and present a juried

Course Descriptions

performance for faculty.

MUSP 1203 Applied Commercial Music: Acoustic Bass
Credit: 2 (1 lecture, 4 lab)
Private instruction in acoustic bass with goals related to jazz or commercial music.

MUSP 1204 Applied Commercial Music: Bass Guitar
Credit: 2 (1 lecture, 4 lab)
Private instruction in bass guitar with goals related to jazz or commercial music.

MUSP 1205 Applied Commercial Music: Commercial Guitar
Credit: 2 (1 lecture, 4 lab)
Private instruction in commercial guitar with goals related to jazz or commercial music.

MUSP 1206 Applied Commercial Music: Dobro Guitar
Credit: 2 (1 lecture, 4 lab)
Private instruction in Dobro guitar with goals related to jazz or commercial music.

MUSP 1207 Applied Commercial Music: Electric Guitar
Credit: 2 (1 lecture, 4 lab)
Private instruction in electric guitar with goals related to jazz or commercial music.

MUSP 1210 Applied Commercial Music: Piano
Credit: 2 (1 lecture, 4 lab)
Private instruction in piano with goals related to jazz or commercial music.

MUSP 1211 Applied Commercial Music: Fiddle
Credit: 2 (1 lecture, 4 lab)
Private instruction in fiddle with goals related to jazz or commercial music.

MUSP 1215 Applied Commercial Music: Mandolin
Credit: 2 (1 lecture, 4 lab)
Private instruction in mandolin with goals related to jazz or commercial music.

MUSP 1217 Applied Commercial Music: Percussion
Credit: 2 (1 lecture, 4 lab)
Private instruction in percussion with goals related to jazz or commercial music.

MUSP 1221 Applied Commercial Music: Steel Guitar
Credit: 2 (1 lecture, 4 lab)
Private instruction in steel guitar with goals related to jazz or commercial music.

MUSP 1223 Applied Commercial Music: Synthesizer
Credit: 2 (1 lecture, 4 lab)
Private instruction in the synthesizer with goals related to jazz or commercial music.

MUSP 1225 Applied Commercial Music: Trumpet
Credit: 2 (1 lecture, 4 lab)
Private instruction in the trumpet with goals related to jazz or commercial music.

MUSP 1227 Applied Commercial Music: Voice
Credit: 2 (1 lecture, 4 lab)
Private instruction in voice with goals related to jazz or commercial music.

MUSP 1240 Large Commercial Music Ensemble: Band
Credit: 2 (1 lecture, 2 lab)
Participation in a large band concentrating on commercial music performance styles.

MUSP 1241 Large Commercial Music Ensemble: Symphony Orchestra
Credit: 2 (1 lecture, 2 lab)
Participation in a large symphony orchestra concentrating on commercial music performance styles.

MUSP 1242 Small Commercial Music Ensemble
Credit: 2 (1 lecture, 2 lab)
Participation in a small commercial music ensemble concentrating on commercial music performance styles.

MUSP 1245 Small Commercial Music Ensemble: Chamber
Credit: 2 (1 lecture, 2 lab)
Participation in a chamber ensemble concentrating on commercial music performance styles.

MUSP 1250 Small Commercial Music Ensemble: Jazz
Credit: 2 (1 lecture, 2 lab)
Participation in a jazz ensemble concentrating on commercial music performance styles.

MUSP 1255 Small Commercial Music Ensemble: Studio Orchestra
Credit: 2 (1 lecture, 2 lab)
Participation in a studio orchestra concentrating on commercial music performance styles.

MUSP 1292 Special Topics in Music - Piano and Organ Performance
Credit: 2 (1 lecture, 2 lab)
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

MUSP 1293 Special Topics in Music - Voice and Choral/Opera Performance
Credit: 2 (1 lecture, 2 lab)
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

MUSP 1308 Music Theater I
Suggested Prerequisite: Approval of director
Credit: 3 (1 lecture, 8 lab)
Presentation of literature from the musical theater including operetta, revues, and musical comedy with emphasis on vocal and movement skills.

MUSP 1329 Live Performance Presentation
Credit: 3 (2 lecture, 2 lab)
A study of the presentation of music to the public including development of image and stagecraft, production elements, and effective presentation programming.

MUSP 2203 Commercial Class Piano
Suggested Prerequisite: college-level piano skills
Credit: 2 (2 lecture, 1 lab)
Development of keyboard skills for commercial music majors including blues progressions and scales, model harmony, and extensive use of the ii-V7-I progression with appropriate keyboard voicing.

MUSP 2206 Commercial Vocal Ensemble: General
Credit: 2 (1 lecture, 2 lab)
Participation in a vocal ensemble concentrating on commercial vocal music performance styles.

MUSP 2207 Commercial Vocal Ensemble: Jazz
Credit: 2 (1 lecture, 2 lab)
Participation in a vocal ensemble concentrating on commercial vocal jazz performance styles.

MUSP 2231 Applied Commercial Music: Arranging and Composition
Credit: 2 (1 lecture, 4 lab)
Private instruction in arranging and composition with goals related to jazz or commercial music.

MUSP 2304 Piano Studio I
Suggested Prerequisite: college-level piano performance

Credit: 3 (3 lecture, 1 lab)

Presentation of keyboard, theoretical, and aural instructional strategies. Survey of beginning methods; series, solo, and technique books; basic techniques of improvisation, and professional affiliations.

MUSP 2308 Opera Workshop I

Suggested Prerequisite: MUSP 1227

Credit: 3 (1 lecture, 8 lab)

Skill development in staged performances of operatic literature for singers.

MUSP 2338 Music Theater II

Suggested Prerequisite: MUSP 1308

Credit: 3 (1 lecture, 8 lab)

Advanced presentation of literature from the musical theater including operetta, revues, and/or musical comedy with emphasis on high level vocal and movement skills and an advanced leadership role in a production.

MUSP 2339 Opera Workshop II

Suggested Prerequisite: MUSC 2308

Credit: 3 (1 lecture, 8 lab)

Advanced skill development in staged performances of operatic literature for singers including the leadership role.

MUSP 2344 Piano Studio II

Suggested Prerequisite: MUSC 2304

Credit: 3 (3 lecture, 1 lab)

A course in advanced keyboard, theoretical, and aural instructional strategies. Survey of intermediate to advanced methods; series, solo and technique books; techniques of improvisation; professional affiliations; and piano studio operations. Emphasis on style and performance.

NMTT 1266 Practicum I– Nuclear Medicine Technology

Prerequisite: Department Approval

Credit: 2 (14 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

NMTT 1267 Practicum II - Nuclear Medicine Technology

Prerequisite: NMTT 1266

Credit: 2 (14 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

NMTT 1311 Nuclear Medicine Patient Care

Credit: 3 (2 lecture, 3 lab)

Includes medical terminology, an introduction to the health care team, and ethical and legal issues for health care professionals; and patient assessment, transport procedures, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and phlebotomy and injection procedures.

NMTT 1313 Nuclear Medicine Physics

Credit: 3 (3 lecture)

Provides a comprehensive study of the physical principles associated with nuclear medicine.

NMTT 1401 Introduction to Nuclear Medicine

Credit: 4 (3 lecture, 3 lab)

Introduction to the field of nuclear medicine with emphasis on the principles of radiation safety, health physics, and the various studies performed in a nuclear medicine area.

NMTT 1409 Nuclear Medicine Instrumentation

Prerequisite: NMTT 1313

Credit: 4 (3 lecture, 4 lab)

Theory and application of electronic instrumentation used in the measurement and analysis of ionizing radiation with special emphasis on gamma spectrometry and quality assurance relevant to nuclear medicine instruments.

NMTT 2167 Practicum III - Nuclear Medicine Technology

Prerequisite: NMTT 1267

Credit: 1 (10 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

NMTT 2309 Nuclear Medicine Methodology II

Prerequisites: NMTT 1409, BIOL 2401, BIOL 2402

Credit: 3 (2 lecture, 3 lab)

Basic principles involved in all diagnostic and therapeutic tests and procedures normally found in a nuclear medicine facility. Emphasizes anatomy, physiology, pathology, radiopharmaceuticals, instrumentation, and data analysis. Includes the cardiovascular, genitourinary, respiratory systems, and miscellaneous procedures.

NMTT 2313 Nuclear Medicine Methodology III

Prerequisites: NMTT 1409, BIOL 2401, BIOL 2402

Credit: 3 (2 lecture, 3 lab)

Focus on the basic principles involved in all diagnostic and therapeutic tests and procedures normally found in a nuclear medicine facility with emphasis on anatomy, physiology, pathology, radiopharmaceuticals, instrumentation, data analysis, and diagnostic value. Includes the gastrointestinal, central nervous, skeletal systems and tumor and inflammation processes.

NMTT 2333 Advanced Positron Emission Tomography (PET) and Fusion Technology

Credit: 3 (3 lecture)

In-depth study into the field of positron emission tomography and fusion technology.

NMTT 2335 Nuclear Medicine Technology Seminar

Prerequisites: all NMTT courses

Corequisite: NMTT 2366

Credit: 3 (2 lecture, 2 lab)

A capstone course focusing on the synthesis of professional knowledge, skills and attitudes in preparation for professional employment and lifelong learning.

NMTT 2366 Practicum IV - Nuclear Medicine Technology

Prerequisite: NMTT 2167

Credit: 3 (21 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

NMTT 2367 Practicum V - Nuclear Medicine Technology

Prerequisite: NMTT 2366

Credit: 3 (21 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

NMTT 2401 Radiochemistry and Radiopharmacy

Prerequisites: CHEM 1405, NMTT 1409

Credit: 4 (3 lecture, 3 lab)

Radiochemistry and radiopharmacy including radioactive decay and production of various radionuclides. Emphasis on radiopharmaceuticals and their ideal characteristics, biodistribution, and clinical applications. Includes the various dosage forms in which they may be dispensed, quality control tests, and their formation and dispensing.

NMTT 2405 Nuclear Medicine Methodology I

Prerequisites: CHEM 1405, NMTT 1313

Credit: 4 (3 lecture, 3 lab)

Principles involved in all diagnostic and therapeutic tests and procedures normally found in a nuclear medicine facility. Emphasizes anatomy, physiology, pathology,

radiopharmaceuticals, instrumentation, data analysis, and diagnostic value. Includes hematopoietic, lymphatic, and endocrine systems. Also covers radioimmuno and non-imaging studies.

OTHA 1301 Introduction to Occupational Therapy

Credit: 3 (2 lecture, 4 lab)

Introduction to the historical development and philosophy of the profession of occupational therapy. Emphasis on the roles and functions of the occupational therapy assistant in current health care environments including moral, legal, and ethical issues.

OTHA 1305 Principles of Occupational Therapy

Credit: 3 (2 lecture, 4 lab)

Introduction to occupational therapy including the historical development and philosophy. Emphasis on the roles of the occupational therapy assistant. Topics include occupation in daily life; education and functions; occupational therapy personnel; current health care environment; and moral, legal and ethical issues.

OTHA 1309 Human Structure and Function in Occupational Therapy

Credit: 3 (2 lecture, 4 lab)

Study of biomechanics of human motion. Emphasis on the musculoskeletal system including skeletal structure, muscles and nerves, and biomechanical assessment procedures.

OTHA 1311 Occupational Performance Throughout the LifeSpan

Credit: 3 (3 lecture, 1 lab)

General principles of occupational performance throughout the lifespan.

OTHA 1315 Therapeutic Use of Occupations or Activities I

Credit: 3 (2 lecture, 4 lab)

Various occupations or activities used as therapeutic interventions in occupational therapy. Emphasis on awareness of activity demands, contexts, adapting, grading, and safe implementation of occupations or activities.

OTHA 1319 Therapeutic Interventions I

Credit: 3 (2 lecture, 4 lab)

Concepts, techniques, and assessments leading to proficiency in skills and activities used as treatment interventions in occupational therapy (OT). Emphasizes the Occupational Therapy Assistant's role in the OT process.

OTHA 2160 Clinical - Occupational Therapist Assistant (Intermediate)

Prerequisite: All first semester OTHA courses

Credit: 1 (3 lab)

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.

OTHA 2161 Clinical- Occupational Therapist Assistant (Intermediate)

Prerequisite: All first semester OTHA courses

Credit: 1 (3 lab)

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.

OTHA 2301 Pathophysiology in Occupational Therapy

Prerequisites: OTHA 1301, OTHA 1305, OTHA 1309

Credit: 3 (3 lecture, 1 lab)

Pathology and general health management of diseases and injuries across the lifespan encountered in occupational therapy treatment settings. Includes etiology, symptoms, and the client's physical and psychological reactions to disease and injury.

OTHA 2302 Therapeutic Use of Occupations or Activities II

Prerequisite: All first semester OTHA courses

Credit: 3 (2 lecture, 4 lab)

Continuation of OTHA 1315/1415: Therapeutic Use of Occupations or Activities I. Emphasis on advanced techniques and applications used in traditional and non-traditional practice settings.

OTHA 2305 Therapeutic Interventions II

Prerequisite: All first semester OTHA courses

Credit: 3 (2 lecture, 4 lab)

Continuation of Therapeutic Interventions I. Emphasis on current rehabilitative interventions.

OTHA 2309 Mental Health in Occupational Therapy

Prerequisites: OTHA 1301, OTHA 1311

Credit: 3 (2 lecture, 4 lab)

Promotion of mental health through occupational therapy. Emphasis on theory and intervention strategies to enhance occupational performance.

OTHA 2311 Abnormal Psychology in Occupational Therapy

Prerequisites: OTHA 1301, OTHA 1311

Credit: 3 (3 lecture, 1 lab)

Fundamental principles and techniques of psychological diagnosis with emphasis on mental health issues including theories, etiology, and treatment intervention.

OTHA 2330 Workplace Skills for the Occupational Therapy Assistant

Prerequisite: All OTHA courses - simultaneous with Clinical II courses

Credit: 3 (3 lecture)

Seminar-based course designed to complement Level II fieldwork by creating a discussion forum addressing events, skills, knowledge, and/or behaviors related to the practice environment. Application of didactic coursework to the clinic and test-taking strategies for certification exams.

OTHA 2331 Physical Function in Occupational Therapy

Prerequisites: OTHA 1301, 1305 and 1309

Credit: 3 (2 lecture, 4 lab)

Physical function to promote occupational performance. Includes frames of reference, assessment/evaluation tools and techniques, patient/client education, and intervention strategies.

OTHA 2360 Clinical - Advanced

Prerequisites: All OTHA first and second semester courses

Credit: 3 (18 lab)

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.

OTHA 2361 Clinical - Advanced

Prerequisite: All OTHA first and second semester courses

Credit: 3 (18 lab)

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.

PBAD 1311 Municipal Management

Credit: 3 (3 lecture)

Skill development in managing municipal government, coordination of services, organizational structure, and relationships with other local governments. Topics include transportation, public safety, and public utilities.

PBAD 1321 Public Administration

Credit: 3 (3 lecture)

An introduction to the organization and management of the public sector. Topics

include intergovernmental relations, overview of different levels of government program management, and management of non-profit agencies.

PBAD 1341 Governmental Agencies
Credit: 3 (3 lecture)
An overview of governmental agencies and their interrelationships; goals and objectives; and organizational structure of each agency. Topics include grants-in-aid, revenue and expenditure patterns, and global influence on governmental agencies.

PBAD 1392 Special Topics in Public Administration
Prerequisite: Department Approval
Credit: 3 (3 lecture)
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.

PBAD 2301 Public Relations for the Public Sector
Credit: 3 (3 lecture)
Skill development in dealing with the public and the media for public sector employees, managers, and public relations specialists. Topics include maintaining positive public image, relating organizational policies to the public interest, and conducting public information programs.

PBAD 2305 Public Sector Management
Credit: 3 (3 lecture)
General principles of public management and strategies of dealing with internal and external systems. Topics include planning, decision-making and leadership models, organizational behavior, and resource management.

PBAD 2311 Public Sector Supervision
Credit: 3 (3 lecture)
Skill development in supervisory techniques in public management. Topics include organizational structure, motivation, planning, control, delegation, and leadership. Instructional techniques may include case studies, role playing, and teamwork.

PBAD 2331 Budgeting in the Public Sector
Prerequisite: Department Approval
Credit: 3 (3 lecture)
Examination of revenue-producing activities and sources of funds; construction and implementation of budgets; and basic terminology, concepts, and mechanics as they relate to fiscal factors. Topics include budget cycle, taxation, bonds, indebtedness, and fund accounting

PBAD 2335 Ethics in the Public Sector
Prerequisite: Department Approval
Credit: 3 (3 lecture)
Examination of reconciling the practice of public administration with provisions of law. Topics include codes of conduct, financial disclosure, conflict of interest, nepotism, and ethical dilemmas.

PBAD 2339 Human Resource Management in the Public Sector
Prerequisite: Department Approval
Credit: 3 (3 lecture)
Examination of human resource management in the public sector with an emphasis on civil service, merit systems, and labor law. Topics include recruiting, selecting, training, compensating, and appraising employees.

PBAD 2341 Legal Aspects of Public Management
Prerequisite: Department Approval
Credit: 3 (3 lecture)
A study of the organizational structure of the judicial systems, conducting legal research, and interpreting legal decisions. Topics include administrative law, contract law, civil procedures, and the regulatory process.

PBAD 2347 Urban Planning
Prerequisite: Department Approval
Credit: 3 (3 lecture)
Examination of urban and regional planning. Topics include environmental analysis, growth and redevelopment strategies, planning, zoning, and subdividing.

PBAD 2364 Practicum (or Field Experience) - Public Administration
Prerequisite: Department Approval
Credit: 3 (3 lecture)
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

PBAD 2365 Practicum (or Field Experience) - Public Administration
Prerequisite: Department Approval
Credit: 3 (3 lecture)
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

PBAD 2380 Cooperative Education - Public Administration
Prerequisite: Department Approval
Credit: 3 (1 lecture, 20 lab)
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

PBAD 2381 Cooperative Education - Public Administration
Prerequisite: PBAD 2380
Credit: 3 (1 lecture, 20 lab)
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

PFPB 1313 Introduction to the Plumbing Trade
Credit: 3 (2 lecture, 2 lab)
Material selection, mathematical calculations applicable to the plumbing trade, hand and power tools, and safety practices.

PFPB 1321 Plumbing Maintenance and Repair
Prerequisite/Corequisite: CNBT 1201
Credit: 3 (2 lecture, 3 lab)
Instruction in the practices and procedures employed by a plumber in the usual and unusual service work in the field of residential plumbing repairs including public relations.

PHED 1100 Jogging
Credit: 1 (1 lecture, 2 activity)
The student will learn proper and safe walking/jogging/running techniques to begin a cardiovascular training program and will learn the basic physiological principles for distance walking/jogging/running. (formerly PHED 1153)

PHED 1101 Jeet Kune Do
Credit: 1 (1 lecture, 2 activity)
Study Bruce Lee's art of Jun Fan along with the highly effective martial arts of Thailand, China,Japan and the Philippines. The student will learn basic self-defense

Course Descriptions

and martial art skills needed to make good decisions regarding dangerousself-defense situations. (formerly PHED 1154)

PHED 1102 Tai Kwan Do- Martial Arts

Credit: 1 (1 lecture, 2 activity)

A traditional martial arts class which focuses on mental as well as physical development. The student will learn self-control and defensive techniques. (formerly PHED 1155)

PHED 1103 Golf

Credit: 1 (1 lecture, 2 activity)

The student will learn the basic fundamental skills of golf and become familiar with the basic rules, tournament play and terminology involved with beginning golf. Off-campus site. (formerly PHED 1156)

PHED 1104 Tennis

Credit: 1 (1 lecture, 2 activity)

The student will learn the basic fundamental skills of tennis (e.g. forehand and backhand strokes, serve, return of serve and volley) and become familiar with the basic strategies, rules, tournament play and terminology involved with singles and doubles in beginning tennis. (formerly PHED 1157)

PHED 1105 Tai Chi

Credit: 1 (1 lecture, 2 activity)

Emphasis is placed on mastering several styles of Tai Chi. Student will perform such skills as stances, kicks, punches and arm movement.The student will develop greater flexibility, endurance, balance and coordination. (formerly PHED 1159)

PHED 1106 Country and Western Dance

Credit: 1 (1 lecture, 2 activity)

The class will consist of Two Step, Polka, Waltz, East Coast Swing, etc. The student will also gain knowledge in dance floor etiquette, history, rules and specific techniques. (formerly PHED 1160)

PHED 1111 Aerobics Conditioning

Credit: 1 (1 lecture, 2 activity)

Aerobics for beginners. Introduction and practice in fundamental techniques of aerobics. Achievement and maintenance of physical fitness through aerobic exercise. Types of exercise will vary from semester to semester.

PHED 1113 Physical Fitness Training

Prerequisite: basic swimming skills

Credit: 1 (1 lecture, 2 activity)

Varied class activities designed to increase strength, endurance and flexibility.

PHED 1114 Water Exercise

Prerequisite: basic swimming skills

Credit: 1 (1 lecture, 2 activity)

Students are introduced to a variety of water exercises including hydrotone, aerobics, and deep water.

PHED 1115 Aerobics II

Credit: 1 (1 lecture, 2 activity)

Maintenance of physical fitness through aerobic exercises. Continuation of Aerobics I.

PHED 1118 Yoga

Credit: 1 (1 lecture, 2 activity)

This class will acquaint the student with history, development, branches and practices of yoga with emphasis on physical practice of individual postures, sets of postures, breathing techniques, meditation and relaxation techniques.

PHED 1131 Basketball

Credit: 1 (1 lecture, 2 activity)

Instruction in the rules and techniques of basketball. Students will learn game specific techniques (dribbling, shooting, defense, offense) and become familiar with the basic strategies, rules, tournament play and terminology.

PHED 1132 Volleyball

Credit: 1 (1 lecture, 2 activity)

Instruction in the rules and techniques of volleyball. Students will learn game specificmntechniques (spiking, blocking, digging) and become familiar with the basic strategies, rules, tournament plan and terminology.

PHED 1133 Soccer

Credit: 1 (1 lecture, 2 activity)

Instruction in the rules and techniques of soccer. Students will learn game specific techniques (dribbling, shooting, defense, offense) and become familiar with the basic strategies, rules, tournament play and terminology. Off campus site

PHED 1141 Team Sports

Credit: 1 (1 lecture, 2 activity)

Instruction in the rules and techniques of team sports. Specific sports will vary from semester to semester.

PHED 1143 Individual Sports

Credit: 1 (1 lecture, 2 activity)

Instruction in the rules and techniques of individual sports. Specific sports will vary from semester to semester.

PHED 1145 Advanced Individual Sports

Credit: 1 (1 lecture, 2 activity)

Continuation of advanced terminology, rules, etc. of an individual sport.

PHED 1146 Beginning Bowling

Credit: 1 (1 lecture, 2 activity)

This course includes everything the beginning bowler needs to know about the game of bowling: rules, regulations, and techniques. In addition to the basics of bowling, this course attempts to give each student a better understanding of the elements involved in the game and enhance his or her enjoyment and performance of the number one indoor participant lifetime sport in the United States. Off-campus site.

PHED 1147 Softball

Credit: 1 (1 lecture, 2 activity)

Instruction in the rules and techniques of softball. Students will learn game specific techniques (batting, bunting, running bases, fielding, etc.) and become familiar with the basic strategies, rules, tournament play and terminology.

PHED 1150 Beginning Swimming

Credit: 1 (1 lecture, 2 activity)

Basic water safety, breath control, arm/leg movements, treading water, beginning surface strokes. Non-swimmers only.

PHED 1253 Lifeguard Training

Prerequisite: must pass skills test to remain in class

Credit: 2 (1 lecture, 2 activity)

Provides the necessary training for qualification s a non-surf lifeguard. Includes training in community CPR and first aid. Strong swimming skills are required. Red Cross certification. (formerly PHED 2253)

PHED 1304 Personal and Community Health

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

This cross-cultural health course offers an opportunity to explore personal health issues on a cultural basis. The focus of this course will address major health issues that impact the health of all individuals and cultures. This course fulfills the cross/multicultural core requirement.

PHED 1306 First Aid

Credit: 3 (3 lecture)

Completion of course leads toward First Aid and Community CPR Certification. This course teaches the standard First Aid and CPR skills a person needs to act as the first link in the emergency medical services system.

PHED 2100 Jogging II

Credit: 1 (1 lecture, 2 activity)

Continuation of Jogging I.

PHED 2101 Marathon

Prerequisite: jogging experience

Credit: 1 (1 lecture, 2 activity)

Successful completion of this course will lead to the ability to complete a full 26.2 mile marathon. In addition to learning the proper and safe techniques of marathon training, the student will develop the ability to complete the GAAC 30k(18.6 miles) at the end of the semester. (formerly PHED 2153)

PHED 2102 Martial Arts II

Prerequisite: basic martial arts skills

Credit: 1 (1 lecture, 2 activity)

The student will become familiar with advanced self-defense and martial arts skills. (formerly PHED 2154)

PHED 2103 Golf II

Credit: 1 (1 lecture, 2 activity)

The student will learn advanced golf skills and become familiar with the rules, tournament play and terminology involved in advanced golf. (formerly PHED 2156)

PHED 2104 Tennis II

Prerequisite: basic tennis skills

Credit: 1 (lecture, 2 activity)

The course will teach forehand, backhand, serve, volley and lob for advanced players. In addition the more specific tennis strokes, dropshot, spin and slice serves, topspin and slice ground strokes will be taught. The student will become familiar with the specific rules, match and tournament regulations. (formerly PHED 2151)

PHED 2111 Beginning Weight Training and Conditioning

Credit: 1 (1 lecture, 2 activity)

Basic fundamental skills and techniques of a strength and conditioning program. Emphasis is placed on correct procedures and use of equipment.

PHED 2113 Individualized Fitness Training

Credit: 1 (1 lecture, 2 activity)

Provides opportunity to accomplish fitness objectives at own pace. Some knowledge of concepts of fitness and weight training recommended.

PHED 2115 Weight Training and Conditioning II

Prerequisite: weight training experience

Credit: 1 (1 lecture, 2 activity)

Emphasis is placed on acquiring advanced training techniques for improving muscular strength, including competitive lifting skills.

PHED 2118 Yoga II

Credit: 1 (1 lecture, 2 activity)

Continuation of Yoga I.

PHED 2146 Bowling II

Credit: 1 (1 lecture, 2 activity)

This course includes everything the advanced and competitive bowler needs to know about the game of bowling: rules, regulations, and techniques. In addition to the basics of bowling, this course attempts to give each student a better understanding of the elements involved in competitive bowling.

PHED 2150 Intermediate Swimming

Credit: 1 (lecture, 2 activity)

Continued acquisition of new strokes. Emphasis is placed on increasing stamina and strength. Beginning skills needed. Basic Water Safety Certification available.

PHED 2255 Water Safety Instructor

Prerequisite: knowledge of Red Cross Community Water Safety |course. Must pass written and skills pretest to remain in class. Red Cross Certification

Credit: 2 (1 lecture, 2 activity)

Provides training needed to become certified Red Cross swim instructor. Includes instructor candidate training course.

PHIL 1301 Introduction to Philosophy

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite)
Credit: 3 (3 lecture)

This course is a theoretically diverse introduction to the study of ideas, including arguments and investigations about abstract and real phenomena, particularly in the areas of knowledge, ethics, and religion. Core Curriculum Course

PHIL 1303 Principles of Reasoning

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A general course in logic, emphasizing the methods of correct reasoning and critical thinking, definition, deductive and inductive inferences, fallacies, language analysis, scientific inquiry, and organizing both written and oral arguments.

PHIL 1304 Introduction to World Religions

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).
Credit: 3 (3 lecture)

This course is a diverse survey of world traditions and religions, including African traditions, Native American traditions, Hinduism, Buddhism, Islam, Tao and Chinese Philosophy, Christianity and Judaism. Core Curriculum Course

PHIL 2289 Academic Cooperative in Philosophy

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 2 (2 lecture)

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the student will set specific goals and objectives in the study of philosophy.

PHIL 2303 Introduction to Symbolic Logic

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

An introduction to symbolic logic, focusing on both propositional and predicate logic, emphasizing the rules of translating language into symbols, the rules of inference and replacement, and the mechanism of reasoning used by computers. Core Curriculum Course.

PHIL 2306 Introduction to Ethics

Prerequisites: ENGL 1302 or Department Approval

Credit: 3 (3 lecture)

A philosophical reflection of the basic principles of the moral life, including traditional and contemporary views concerning the nature of goodness, happiness, duty, and freedom as they apply to individual right,business,medicine, and community well-bein Core Curriclum Course.

PHIL 2307 Introduction to Social and Political Philosophy

Prerequisites: ENGL 1301 or Department Approval

Credit: 3 (3 lecture)

This course is a critical analysis of political theories and social issues. Consideration will be given to historically significant and

contemporary systems, problems, and thinkers. Core Curriculum Course

PHIL 2316 Survey of Ancient and Medieval Philosophy

Prerequisites: ENGL 1302 or Department Approval

Credit: 3 (3 lecture)

An historic survey of critical and reflective thinking as applied to the basic problems of existence and the meaning of human life and institutions; begins with the Greek and Roman philosophers, continues through the Middle Ages, and ends with the Renaissance; a study of the nature of philosophy as applied to the development of the scientific method, the existence of God, and the political structures of society. Core Curriculum Course

PHIL 2317 Survey of Modern/ Contemporary Philosophy

Prerequisites: ENGL 1302 or Department Approval

Credit: 3 (3 lecture)

An historic survey of critical and reflective thinking as applied to the basic problems of existence and the meaning of human life and institutions; begins with the Renaissance, continues with the major philosophers of the 16th, 17th, 18th and 19th centuries, and ends with an examination of the analytic and existential philosophers of the 20th century; a study of the nature of philosophy as applied to the development of the scientific method, the existence of god, and the political structures of society. Core Curriculum Course

PHIL 2321 Existence and Faith

Prerequisites: ENGL 1301 or Department Approval

Credit: 3 (3 lecture)

A critical investigation of major religious ideas, experiences, and questions that form the basis for a philosopny of religion. Core Curriculum Course.

PHIL 2389 Academic Cooperative in Philosophy

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the student will set specific goals and objectives in the study of philosophy.

PHRA 1309 Pharmaceutical Mathematics I

Prerequisite: Admission to the Pharmacy Technician Program

Credit: 3 (3 lecture)

Pharmaceutical mathematics including reading, interpreting and solving calculation problems encountered in the preparation and distribution of drugs. Conversion of measurements within the apothecary, avoirdupois, and metric systems with emphasis on the metric system of weight and volume. Topics include ratio and proportion, percentage, dilution and concentration, milliequivalent, units, intravenous flow rates, and solving dosage problems.

PHRA 1313 Community Pharmacy Practice

Prerequisite: Admission into the Pharmacy Technician Program

Credit: 3 (2 lecture, 2 lab)

Introduction to the skills necessary to process, prepare, label, and maintain records of physicians' medication orders and prescriptions in a community pharmacy. Designed to train individuals in supply, inventory, and data entry. Includes customer service, count and pour techniques, prescription calculations, drug selection and preparation, over-the-counter drugs, record keeping, stock level adjustment, data input, editing, and legal parameters.

PHRA 1345 Intravenous Admixture and Sterile Compounding

Prerequisite: Admission into the Pharmacy Technician Program

Credit: 3 (2 lecture, 4 lab)

A study of sterile products, hand washing techniques, pharmaceutical calculations, references, safety techniques, aseptic techniques in parenteral compounding, proper use of equipment, preparation of sterile products, and safe handling of antineoplastic drugs.

PHRA 1449 Institutional Pharmacy Practice

Prerequisite: Admission into the Pharmacy Technician Program

Credit: 4 (3 lecture, 3 lab)

Exploration of the unique role and practice of pharmacy technicians in an institutional pharmacy with emphasis on daily pharmacy operation. Topics include hospital pharmacy organization, work flow and personnel, medical and pharmaceutical terminology, safety techniques, data entry, packaging and labeling operations, extemporaneous compounding, inpatient drug distribution systems, unit dose chart fills, quality assurance, drug storage, and inventory control.

PHRA 1541 Pharmacy Drug Therapy and Treatment

Prerequisite: Admission into the Pharmacy Technician Program

Credit: 5 (4 lecture, 2 lab)

Study of therapeutic agents, their classifications, properties, actions, and effects on the human body and their role in the management of disease. Provides detailed information regarding drug dosages, side effects, interactions, toxicities, and incompatibilities.

PHRA 2662 Clinical - Pharmacy Technician/Assistant

Prerequisite: all PHRA courses

Credit: 6 (25 lab)

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.

PHTC 1311 Fundamentals of Photography
Credit: 3 (2 lecture, 4 lab)

An introduction to camera operation and image production, composition, supplemental lighting, and use of exposure meters and filters.

PHTC 1345 Illustrative Photography I

Prerequisite: PHTC 1311

Credit: 3 (2 lecture, 4 lab)

Instruction in the technical aspects involved in commercial photography. Topics include lighting equipment, techniques of production photography, reproduction principles, illustrative techniques, and advertising.

PHTC 1351 Photojournalism I

Prerequisite: PHTC 1311

Credit: 3 (2 lecture, 4 lab)

Presentation of photographic techniques used by photojournalists in newspapers, magazines, and trade publications including news, feature, sports, editorial portraits, and photo essays. Includes a study of layout design and the freelance market.

PHTC 1353 Portraiture I

Prerequisite: PHTC 1311

Credit: 3 (2 lecture, 4 lab)

Photographic principles applied to portrait lighting, posing, and subject rapport.

PHTC 2340 Photographic Studio Management

Credit: 3 (2 lecture, 4 lab)

Photography business management, pricing, market analysis, promotion, networking, job acquisition, and photographic equipment

analysis.

PHTC 2343 Portfolio Development

Prerequisite: All PHTC courses

Credit: 3 (2 lecture, 4 lab)

A culmination experience for the evaluation of the student's photographic competencies. Includes association with a professional photographic organization, skills in resume creation, completion of portfolio, professional self-presentation, comprehensive exam, and seminars in areas of photographic interest

PHYS 1305 Introductory Physics I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

General introduction to basic and fundamental principles in physics (with minimal or no computations) including: motion, gravity, momentum, energy, relativity, structures of matter, thermal energy, waves and sound. This course is intended as a non-lab-based preparatory course for students wishing to take PHYS 1401 and PHYS 1402, and also for those students wishing to take PHYS 2325 who have no prior knowledge of physics. This is a Core Curriculum Course.

PHYS 1307 Introductory Physics II

Prerequisites: Must be placed in GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing. PHYS 1307 can be taken without taking PHYS 1305.

Credit: 3 (3 lecture)

A non-lab-based further introduction to the basic principles in physics (with minimal or no computations) which include: light, electricity, electromagnetism, quantum concepts, sub-atomic world, elementary particles and frontiers. This is a Core Curriculum Course.

PHYS 1401 College Physics I

Prerequisites: MATH 1314, 1316; Must also be placed into GUST 0341 (or higher) in reading.
Credit: 4 (3 lecture, 3 lab)

Non-calculus based course for medical related majors, architecture majors, technology majors, and other non-engineering and non-science majors. Topics include motion and forces, work and energy, momentum and collision, and the thermal properties of matter. Laboratory exercises include selected related experiments on these topics. Core Curriculum Course.

PHYS 1402 College Physics II

Prerequisite: PHYS 1401; Must also be placed into GUST 0341 (or higher) in reading.
Credit: 4 (3 lecture, 3 lab)

Continuation of non-Calculus based physics for medical related majors, architecture majors, technology majors and other non-engineering and non-science majors. Topics include wave motion, electricity, magnetism, electromagnetic waves, optics, and topics in modern physics. Laboratory exercises include selected related experiments on these topics. Core Curriculum Course.

PHYS 2125 Physics Laboratory I

Prerequisite: Must placed into Math 2414 (or higher).Must also be placed into GUST 0341 (or higher) in reading.
Credit: 1 (3 lab)

Selected laboratory experiments related to topics in PHYS 2325 (University Physics I) for science and engineering majors. Core Curriculum Course.

PHYS 2126 Physics Laboratory II

Prerequisite/Corequisite: PHYS 2326; Must be placed into GUST 0341 (or higher) in reading and be placed into MATH 2414 (or higher).Credit: 1 (3 lab)

Selected laboratory experiments related to topics in PHYS 2326 (University Physics II) for science and engineering majors. Core Curriculum Course.

PHYS 2325 University Physics I

Prerequisites: Must placed into Math 2414 (or higher). Must also be placed into GUST 0341 (or higher) in reading.
Credit: 3 (3 lecture, 1 lab)

A calculus-based physics course designed specifically for chemistry, physics, and engineering majors. Topics include principles of mechanics, sound, wave phenomena, kinetic theory, fluid flow, and thermal physics. Core Curriculum Course. (formerly PHYS 2425)

PHYS 2326 University Physics II

Prerequisites: PHYS 2425 or 2325 ; Must also be placed into GUST 0341 (or higher) in reading and be placed into MATH 2414 (or higher).
Credit: 3 (3 lecture, 1 lab)

Continuation of calculus based physics. Course designed specifically for chemistry, physics, and engineering majors. Includes principles of electricity and magnetism, optics, electromagnetic waves, relativity, kinetic theory, introduction to quantum theory, thermal physics, and other physics topics. Core Curriculum Course. (formerly PHYS 2426)

PLAB 1223 Phlebotomy

Credit: 2 (1 lecture, 4 lab)

Skill development in the performance of a variety of blood collection methods using proper techniques and universal 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, proper patient identification, labeling of specimens and quality assurance, specimen handling, processing, and accessioning. Topics include professionalism, ethics, and medical terminology.

PLTC 1301 Introduction to Plastic

Credit: 3 (2 lecture, 3lab)

A survey course designed to introduce the student to the field of plastics. An overview of thermoplastic and thermoset materials and the major processing methods utilized by industry.

PLTC 1303 Plastics Composite

Credit: 3 (2 lecture, 3 lab)

An introductory course in techniques of combining various types of reinforcing elements with a polymer resin to yield specific characteristics and properties not attainable by either constituent acting alone

PLTC 1306 Plastic Quality Control

Credit: 3 (2 lecture, 3 lab)

A course in reading and interpreting blueprints for inspection purposes of plastic parts. Emphasis on geometric dimensioning, tolerancing, and hands on setup using modern inspection tools and gages.

PLTC 1343 Molddesign and Maintenance

Prerequisite: INMT 1248 and INMT 1249

Credit: 3 (2 lecture, 3 lab)

An introductory course in the basic design parameters of plastic injection molds including mold flow, nominal walls projection, depressions, ejector systems, runners, gates, parting lines, and general mold configurations. Emphasis on maintenance techniques on in house molds.

PLTC 1445 Plastic Processes I

Credit: 3 (3 lecture, 4 lab)

Prerequisite: INMT 1248 and INMT 1249

Identification and examination of thermoplastic processes. Emphasis on safety, selection, and preparation of raw materials, machine functions, mold set up, and the use of auxiliary equipment associated with injection molding.

POFI 1301 Computer Applications I

Credit: 3 (2 lecture, 3 lab)

Overview of computer office applications including current terminology and technology. Introduction to computer hardware, software applications, and procedures.

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POFI 1341 Computer Applications II

Prerequisites: POFI 1301 and POFT 1329

Credit: 3 (2 lecture, 3 lab)

Continued study of current computer terminology and technology. Advanced skill development in computer hardware, software applications, and procedures. The student will demonstrate proficiency in commonly used software applications and identify and explain the concepts involved in producing documents using advanced features of software applications. Emphasis is on developing end-user proficiency skills for office environments.

POFI 1349 Spreadsheets

Prerequisites: POFT 1329 and POFI 1301

Credit: 3 (2 lecture, 3 lab)

Spreadsheet software for business applications.

POFI 1380 Cooperative Education– Information Processing/Data Entry Technician

Prerequisite: 12 semester hours of business technology courses and program approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

POFI 2331 Desktop Publishing

Prerequisite: POFI 1341, POFI 1349

Credit: 3 (2 lecture, 3 lab)

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.

POFI 2380 Cooperative Education - Information Processing/Data Entry Technician

Prerequisite: POFI 1380

Credit 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

POFL 1305 Legal Terminology

Credit: 3 (3 lecture)

An introduction to legal terminology including spelling, pronunciation, and definition of legal terms and an overview of the law and the professions.

POFL 1359 Legal Transcription

Prerequisite: POFL 1305

Credit: 3 (2 lecture, 3 lab)

Skill development in comprehensive vocabulary, listening, organizing, and transcribing client-quality documents used in a legal office.

POFL 2305 Legal Research

Prerequisite: POFL 1305

Credit: 3 (2 lecture, 3 lab)

Exploration of legal issues utilizing current and emerging research techniques.

POFM 1300 Medical Coding Basics

Prerequisite: MDCA 1313

Credit: 3 (2 lecture, 3 lab)

Presentation and application of basic coding rules, principles, guidelines, and conventions utilizing various coding systems.

POFM 2333 Medical Document Production (Coding II)

Prerequisite: POFM 1353

Credit: 3 (2 lecture, 3 lab)

Study of advanced concepts of medical office activities, practices, and procedures. Topics include advanced medical reports, transcription, coding, billing, insurance activities, and records management. This course is designed to provide practical applications of the linkage of the CPT-4 coding system. Medical references will be used for research and verification. MEDISOFT software applicable.

POFT 1301 Business English

Credit: 3 (3 lecture)

Introduction to a practical application of basic language usage skills with emphasis on fundamentals of writing and editing for business.

POFT 1307 Proofreading and Editing

Prerequisite: ETWR 2301

Credit: 3 (2 lecture,34 lab)

Instruction in proofreading and editing skills necessary to assure accuracy in written documents and business correspondence. Drill in copy editing for more complex scientific/technical materials. Includes units on newsletter preparation and publication, and on editing book-length manuscripts.

POFT 1319 Records and Information Management I

Credit: 3 (3 lecture)

Introduction to basic records and information management. Includes the life cycle of a record, manual and electronic records management, and basic filing procedures and rules. The student will identify the stages in the life cycle of a record; file and retrieve records using alphabetic, numeric, geographic, and subject filing systems, input, index, code, and cross-reference records; use tickler file, requisition, and charge-out procedures; and differentiate between manual and electronic filing.

POFT 1325 Business Math and Machine Applications

Credit: 3 (3 lecture)

Skill development in the use of electronic calculators and business mathematical functions. Emphasis on business problem-solving skills using spreadsheet software and/or electronic calculator/keyboard.

POFT 1329 Keyboarding and Document Formatting

Credit: 3 (2 lecture, 3 lab)

Skill development in the operation of the keyboard by touch, applying proper keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents.

POFT 1345 Shorthand/Notetaking

Credit: 3 (2 lecture, 3 lab)

An introduction to shorthand/notetaking principles. Mastery of accurate reading and writing of notes to produce mailable documents from dictation.

POFT 1380 Cooperative Education I– Administrative Assistant and secretarial Services, General

Prerequisite: Completion of 12 semester hours and Department Approval

Credit: 3 (1 lecture/seminar and 20 hours a week employment)

Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.

POFT 1392 Special Topics in Administrative Assistant - Introduction to Office Technology

Credit: 3 (3 lecture)

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. An introduction to present and future resources used to facilitate handling of office information. Study

of equipment, applications, procedures, terminology and environmental factors affecting productivity and career paths.

POFT 2301 Document Formatting and Skill Building

Prerequisite: POFT 1329

Credit 3 (2 lecture, 3 lab)

A continuation of keyboarding skills in document formatting, speed, and accuracy. Emphasis on proofreading, editing, following instructions, and keying documents from various copy.

POFT 2331 Administrative Systems

Prerequisite: POFT 1329

Credit: 3 (2 lecture, 3 lab)

Experience in project management and office procedures utilizing integration of previously learned skills.

POFT 2359 Records and Information Management III

Credit: 3 (2 lecture, 3 lab)

Study of advanced records and information management systems and applications. Includes database software and systems evaluation, integration of records and information management technologies, and advanced case studies. Student will recommend database software and systems, analyze current records and information management operations and propose applications appropriate for an organization, and use a problem-solving approach to evaluate records and information management systems and determine applicable management strategies using database software.

POFT 2380 Cooperative Education II– Administrative Assistant and secretarial Services, General

Prerequisite: POFT 1380 and Department Approval

Credit: 3 (1 lecture/seminar and 20 hours a week employment)

An experience external to the college for an advanced student in a specialized field involving a written agreement between the educational institution and a business or industry. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college and that are directly related to specific occupational outcomes. This may be a paid or unpaid experience. This course may be repeated if topics and learning outcomes vary.

PSTR 1301 Fundamentals of Baking

Credit: 3 (2 lecture, 4 lab)

Fundamentals of baking including dough, quick breads, pies, cakes, cookies, tarts, and doughnuts. 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.

PSTR 1305 Breads and Rolls

Credit: 3 (2 lecture, 4 lab)

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

Credit: 3 (2 lecture, 3 lab)

A course in decoration of specialized and seasonal products.

PSTR 1310 Pies, Tarts, Teacakes and Cookies

Credit: 3 (2 lecture, 4 lab)

Focus on preparation of American- and European-style pie and tart fillings and dough, cookies, teacakes, custard and batters. Instruction in finishing and presentation techniques.

PSTR 1312 Laminated Dough, Pate a Choux and Donuts

Credit: 3 (2 lecture, 4 lab)

Focus on preparation of laminated doughs to include puff pastry, croissant, and Danish and a variety of pate a choux (eclair paste) products and donuts. Fillings and finishing techniques included.

Pstr 1340 Plated Desserts

Credit: 3 (2 lecture, 4 lab)

Preparation and service of hot and cold desserts with a focus on individual desserts, a la minute preparations, and numerous components within one preparation. Emphasis on station organization, timing, and service coordination for restaurant dessert production.

PSTR 1364 Practicum - Baking and Pastry Arts/Baker/Pastry Chef

Prerequisite: Department Approval

Credit: 3 (21 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

PSTR 1381 Cooperative Education - Baking and Pastry Arts/Baker/Pastry Chef

Prerequisite: Department Approval

Credit: 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

PSTR 1391 Special Topics

Credit: 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge's, 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.

PSTR 2301 Chocolates and Confections

Credit: 3 (2 lecture, 4 lab)

Production and decoration of traditional truffles, marzipan, molded and hand-dipped chocolate, caramels, nougats, and pate de fruit.

PSTR 2307 Cake Decorating II

Prerequisite: PSTR 1306

Credit: 3 (2 lecture, 3 lab)

A course in decoration of specialized and seasonal products.

PSTR 2331 Advanced Pastry Shop

Credit: 3 (2 lecture, 4 lab)

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.

PSTR 2350 Wedding Cakes

Prerequisite: PSTR 1306

Credit: 3 (2 lecture, 4 lab)

Skills, concepts, and techniques for preparing wedding cakes. Includes marzipan, plastic chocolate-rolled fondant, chocolate garnish, flower making, and royal icing piping work.

PSYC 1300 Learning Framework

Credit: 3 (3 lecture)

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. (May also be offered as EDUC 1300.)

Course Descriptions

PSYC 2301 Introduction to Psychology

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A survey of the basic principles underlying human behavior and mental processes. Emphasis will be placed on major areas of study in the field of psychology, such as motivation, development, thought processes, and personality. Core Curriculum Course.

PSYC 2302 Applied Psychology

Credit: 3 (3 lecture)

A study of the application of basic psychological principles to adjustment decisions in daily life. This will include such topics as interpersonal communication, conflict resolution, stress, group processes, friendship, love and marriage, and career choices.

PSYC 2303 Business Psychology

Credit: 3 (3 lecture)

Survey of psychological principles applied to the work place. This course will introduce students to the psychosocial, interpersonal, and behavioral dynamics of people in organizations. The importance of effective communication, leadership, cultural diversity, and teamwork within an organization will be explored.

PSYC 2306 Human Sexuality

Prerequisites: Must be placed into college-level reading.

Credit: 3 (3 lecture)

This course is designed to provide an understanding of human sexuality, identity, orientation, and behavior, and the variations in these dimensions of this important aspect of human experience. It includes information on physical, cognitive, and psychosocial changes associated with sexuality. Theory, research methods, and applications of research to the facilitation of gender identity development and understanding of the human sexual response are covered. The course also provides information on the treatment of sexual dysfunction, and the prevention of sexually transmitted diseases and irresponsible sexual behavior.

PSYC 2307 Adolescent Psychology

Credit: 3 (3 lecture)

Psychology of adolescence is a study of the relationships among the physical, emotional, social and psychological factors that influence growth and development from puberty to early adulthood (ages 12-18).

PSYC 2308 Human Growth and Development: Childhood and Adolescence

Credit: 3 (3 lecture)

A study of normal physiological, intellectual, and emotional development and functioning of the child from conception through adolescence. Emphasis on normal child development, the family, parent-child interaction, and the psychological and cultural forces affecting them.

PSYC 2311 Human Growth and Development: Adulthood and Aging

Prerequisite: PSYC 2301 or 2308 or Department Approval; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A study of the normal physiological, intellectual, and emotional development and functioning of the human life cycle from adulthood through death.

PSYC 2314 Human Growth and Development: Lifespan

Prerequisite: PSYC 2301 or Department Approval; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A developmental psychology course designed to provide an understanding of human behavior and characteristics from conception through death. This course includes information on physical, cognitive, and psychosocial changes throughout the lifespan. Theory, research, and applications are covered.

PSYC 2315 Psychology of Adjustment

Prerequisite: PSYC 2301; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A study of human behavior, applying psychological theory to the development of the well-adjusted individual. Techniques for managing stress, reducing anxiety, coping with anger, increasing assertiveness, and achieving self-control are considered.

PSYC 2316 Psychology of Personality

Prerequisite: PSYC 2301; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

This course covers personality theories that apply to both normal personality and abnormal behavior. Some of the theories covered are psychoanalytic, cognitive, learning, and sociocultural. Current research on the biological foundations of mental health and illness is covered in detail. These theories are related to mental disorders such as major depression, phobias, obsessive-compulsive disorder, bipolar disorder and schizophrenia. Case studies of individuals enhance comprehension of mental disorders. Treatment by psychotherapy and drugs is discussed as well as ethical, legal and social issues relating to the mentally ill.

PSYC 2317 Statistical Methods in Psychology

Prerequisite: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite) and be placed into Math 0312 (or higher).

Credit: 3 (3 lecture)

An introduction to the use of scientific methods in psychology and to the statistical analysis of data. Attention is given to descriptive, correlational, and inferential statistical methodology.

PSYC 2319 Social Psychology

Prerequisite: PSYC 2301; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A study of social cognition, social behavior, interpersonal relations, and group membership. Emphasis on theories, research, and applications.

PSYC 2370 Cross-Cultural Psychology

Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A course designed to explore and better understand psychology from a multicultural perspective. The course will examine similarities and differences among cultures and the context of their development. Discussions, lectures,

and assignments will address how culture influences a group's way of thinking and behaving. Core Curriculum Course.

PSYC 2374 the Psychology of Women

Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

This is a freshman or sophomore college level course on the psychology of women or gender. This course is designed to analyze and clarify the psychological issues in women's lives that are responsible for the "gender gap" in success. The course focuses on diversity and challenges that women of various cultures face in the twenty-first century. Strategies for overcoming the effects of sexism and racism in the various life states are also addressed.

PSYC 2389 ACADEMIC COOPERATIVE IN PSYCHOLOGY

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture, 0 lab)

An experiential-learning instruction program designed to integrate textbook and classroom knowledge with practical hands-on experience in an applied area of psychology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

PTAC 1302 Introduction To Process Technology

Credit: 3 (3 lecture)

Introduction to chemical and refinery plant operations. Topics include process technician duties, responsibilities and expectations, plant organizations, plant process and utility systems, and the physical and mental requirements of the process technician.

PTAC 1308 Safety, Health, and Environment I

Prerequisite or Corequisite: PTAC 1302 or Department Approval

Credit: 3 (3 lecture)

Development of knowledge and skills to reinforce the attitudes and behaviors required for safe and environmentally sound work habits. Emphasis on safety, health, and environmental issues in the performance of all job tasks and regulatory compliance issues.

PTAC 1332 Process Instrumentation I

Prerequisites: PTAC 1308 and MATH 1314 or Department Approval

Credit: 3 (2 lecture, 2 lab)

Study of the instruments and instrument systems used in the process industry including terminology, primary variables, symbology, control loops, and basic troubleshooting.

PTAC 1350 Industrial Economics

Credit: 3 (3 lecture)

Examination of the profitability factors of plant operations including both personal and business strategies, objectives, and operating profitably.

PTAC 1354 Industrial Processes

Prerequisites: PTAC 1302 and PTAC 1308

Credit: 3 (3 lecture)

Study of the processes employed in process plant operations.

PTAC 1410 Process Technology I - Equipment

Prerequisite: PTAC 1302 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Instruction in the use of common process equipment.

PTAC 2314 Principles of Quality

Prerequisite: PTAC 1302 and MATH 1314

Credit: 3 (3 lecture)

Study of the background and application of quality concepts. Topics include team skills, quality tools, and economics and continuous improvement.

PTAC 2336 Process Instrumentation II

Prerequisite: PTAC 1302 or Department Approval

Credit: 3 (2 lecture, 2 lab)

Continued study of coverage of the varied instruments and instrument systems used in the chemical processing industry including terminology, primary variables, symbology, control loops, and basic troubleshooting.

PTAC 2348 Safety, Health, and Environment II

Prerequisite: PTAC 1308

Credit: 3 (3 lecture)

Continued instruction in the application of concepts presented in Safety, Health, and Environment I. Emphasis on emergency response concepts.

PTAC 2420 Process Technology II - Systems

Prerequisite: PTAC 1410 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Study of the interrelation of process equipment and process systems including related scientific principles.

PTAC 2438 Process Technology III - Operations

Prerequisite: PTAC 2420

Credit: 4 (3 lecture, 3 lab)

This course combines systems into operational processes with emphasis on operations under various conditions.

PTAC 2446 Process Troubleshooting

Prerequisite: PTAC 2420 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Instruction in the different types of troubleshooting techniques, procedures, and methods used to solve process problems. Topics include application of data collection and analysis, cause effect relationships, and reasoning.

PTHA 1201 The Profession of Physical Therapy

Prerequisite: Admission to the Physical Therapist Assistant Program

Credit: 2 (2 lecture, 1 lab)

Introduction to the profession of physical therapy including the historical and current scope of physical therapy.

PTHA 1229 Applied Physical Principles

Prerequisite: Admission to the Physical Therapist Assistant Program

Credit: 2 (1 lecture, 2 lab)

An experiential approach to the application of physical principles as related to patient treatment.

PTHA 1266 Practicum I

Prerequisites: PTHA 2205, PTHA 2509

Credit: 2 (14 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

PTHA 1267 Practicum II

Prerequisites: PTHA 1266, PTHA 2435, PTHA 2431

Corequisites: PTHA 2239 and PTHA 2250

Credit: 2 (14 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

Course Descriptions

PTHA 1305 Basic Patient Care Skills

Prerequisites: Admission to program

Credit: 3 (2 lecture, 4 lab)

Theory and application of basic patient hhandling and functional skills includes selected data collection techniques.

PTHA 1321 Pathophysiology

Prerequisite: PTHA 1413, PTHA 1201, HPRS 1106

Credit: 3 (3 lecture, 1 lab)

Study of the pathogenesis, prognosis, and therapeutic management of diseases/ conditions commonly encountered in physical therapy.

PTHA 1391 Special Topics in Physical Therapy Assistant

Credit: 3 (3 lecture)

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.

PTHA 1413 Functional Anatomy

Prerequisite: Admission to the Physical Therapist Assistant Program

Corequisite: BIOL 2401

Credit: 4 (3 lecture, 4 lab)

Human anatomy and its application to the motion of the musculoskeletal system as it relates to normal activities and dysfunctions.

PTHA 1431 Physical Agents

Prerequisites: PTHA 1413, PTHA 1229, PTHA 1201, PTHA 1305, HPRS 1106

Credit: 4 (2 lecture, 6 lab)

Biophysical principles and application of therapeutic physical agents with specific emphasis on indications, contraindications, medical efficacy, and physiological effects.

PTHA 2205 Neurology

Prerequisite: PTHA 1321

Credit: 2 (2 lecture, 1 lab)

Study of neuroanatomy and neurophysiology as it relates to commonly encountered neurological conditions.

PTHA 2239 Professional Issues

Prerequisites: PTHA 2431, PTHA 2435

Corequisite: PTHA 1267, PTHA 2266, PTHA 2250

Credit: 2 (2 lecture, 1 lab)

A capstone course which engages the student in the discussion of professional issues and behaviors related to clinical practice and which prepares the student for transition into the workforce.

PTHA 2250 current concepts in physical therapy

Prerequisites: PTHA 2435, PTHA 2431

Corequisites: PTHA 1267, PTHA 2266

Credit: 2 (1 lecture, 4 lab)

Current concepts, skills, and knowledge in the provision of physical therapy services. Includes enhancement of professional development.

PTHA 2266 Practicum III – Physical Therapist Assistant

Prerequisites: PTHA 2435, PTHA 2431, PTHA 1267

Corequisites: PTHA 2239 and PTHA 2250

Credit: 2 (14 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

PTHA 2267 Practicum IV - Physical Therapist Assistant

Prerequisites: PTHA 1267, PTHA 2266, PTHA 2250

Credit: 2 (14 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

PTHA 2301 Essentials of Data Collection

Prerequisites: PTHA 1305, PTHA 1413, PTHA 1229, PTHA 1201, HPRS 1106

Corequisites: PTHA 1321, PTHA 1431, HPRS 2332

Credit: 3 (2 lecture, 4 lab)

Data collection techniques used to prepare the physical therapist assistant to assist in physical therapy management.

PTHA 2431 Management of Neurological Disorders

Prerequisites: PTHA 2205, PTHA 2509, PTHA 2435

Credit: 4 (2 lecture, 6 lab)

Advanced course integrating previously learned and new skills/techniques into the comprehensive rehabilitation of selected neurological disorders.

PTHA 2435 Rehabilitation Techniques

Prerequisite: PTHA 2205, PTHA 2509

Credit: 4 (2 lecture, 6 lab)

Advanced course integrating previously learned and new skills/techniques into the comprehensive rehabilitation of selected long-term pathologies.

PTHA 2509 Therapeutic Exercise

Prerequisites: PTHA 1321, PTHA 1431, PTHA 2301, HPRS 2332

Credit: 5 (3 lecture, 6 lab)

Concepts, principles, and application of techniques related to therapeutic exercise and functional training.

PTRT 1301 Introduction to Petroleum Industry

Credit: 3 (3 lecture)

An introduction to the various aspects of petroleum industry including equipment, systems, instrumentation, operations, and the various scientific principles. Addresses a variety of petroleum technologies: exploration, drilling, production, transportation, marketing, and chemical processing industries.

PTRT 1370 Petroleum Geology

Credit: 3 (3 lecture)

Principles of geological patterns, rock shapes and structures, and reservoir formations associated with petroleum operations.

PTRT 1470 Petroleum Data Management I-Exploration

Credit: 4 (2 lecture, 4 lab)

Overview of computer applications in exploration; covers the history, fundamentals, terminology and software for exploration; introduction to the principles of geology, geophysics and petro-physics.

PTRT 1471 Exploration and Production I

Credit: 4 (2 lecture, 4 lab)

Overview of various aspects of deepwater operations deepwater exploration, drilling and completing wells, development of production systems.

PTRT 1472 Petroleum Data Management II-Drilling and Production

Credit: 4 (2 lecture, 4 lab)

Overview of computer applications in drilling and production. Covers the history, fundamentals, terminology and software for drilling and production. Introduction to the principles of drilling, production and reservoir.

PTRT 1473 Exploration and Production II

Credit: 4 (2 lecture, 4 lab)

Continue with exploration and production principles including drilling rigs, giant oil and gas fields, beam pumpers, and geological classifications.

PTRT 2331 Well Completions

Credit: 3 (3 lecture)

Drilling and wellbore analysis data to develop a well completion plan.

PTRT 2370 Petroleum Operations

Credit: 3 (3 lecture)

Course covers the principles and fundamentals of onshore and offshore operations implemented in oil recovery.

PTRT 2371 Principles of Reservoir Engineering

Credit: 3 (3 lecture)

An overview of reservoir engineering techniques and calculations employed in the proper operation and management of underground oil reservoirs.

PTRT 2372 Internship-Petroleum Technology/Technician

Prerequisite: Department Approval

Credit: 3 (18 lab)

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.

PTRT 2380 Cooperative Education - Petroleum Technology/Technician

Prerequisite: Department Approval

Credit: 3 (1 lecture, 19 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

PTRT 2423 Natural Gas Production

Credit: 4 (2 lecture, 4 lab)

An overview of the aspects of natural gas and oil production including various aspects of hydrocarbon production, processing equipment, and gas compression/transportation systems.

PTRT 2470 Petroleum Data Management III-Facilities and Performance

Credit: 4 (2 lecture, 4 lab)

Overview of computer applications in surface facilities and automation. Covers the history, fundamentals, terminology and software for surface facilities and automation.

QCTC 1341 Statistical Process Control

Prerequisite/Corequisite: INMT 1249

Credit: 3 (3 lecture)

Components of statistics, including techniques of collection, presentation, analysis, and interpretation of numerical data as applied to statistical control. Stresses application of correlation methods, analysis of variance, dispersion, sampling quality control, reality, mathematical models, and programming.

RADR 1160 Clinical - Radiologic Technology/Science - Radiographer

Prerequisite: Acceptance into program

Credit: 1 (3 lab)

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.

RADR 1201 Introduction to Radiography

Credit: 2 (2 lecture)

An overview of the historical development of radiography, basic radiation protection, an introduction to medical terminology, ethical and legal issues for health care professionals, and an orientation to the program and the health care system.

RADR 1266 Radiographic Practicum I

Prerequisites: RADR 1160, RADR 1303, RADR 1411

Credit: 2 (16 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

RADR 1267 Radiographic Practicum II

Prerequisite: RADR 1266, RADR 1313, RADR 2401

Credit: 2 (20 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

RADR 1303 Patient Care (Ethics)

Prerequisite: Admission to the program

Credit: (3 lecture)

An introduction in patient assessment, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and basic pharmacology.

RADR 1313 Principles of Radiographic Imaging I

Prerequisite: Admission to the program Credit: 3 (3 lecture, 1 lab)

Radiographic image quality and the effects of exposure variables.

RADR 1411 Basic Radiographic Procedures

Prerequisite: Admission to the program
Credit: 4 (3 lecture, 4 lab)

An introduction to radiographic positioning terminology, the proper manipulation of equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of basic anatomy.

RADR 2213 Radiation Biology and Protection

Prerequisites: RADR 2309, MATH 1314
Credit: 2 (2 lecture)

Effects of radiation exposure on biological systems. Includes typical medical exposure levels, methods for measuring and monitoring radiation, and methods for protecting personnel and patients from excessive exposure.

RADR 2217 Radiographic Pathology

Prerequisite: RADR 2331

Credit: 2 (2 lecture)

Disease processes and their appearance on radiographic images.

RADR 2233 Advanced Medical Imaging

Prerequisites: RADR 2305, RADR 2331

Credit: 2 (2 lecture)

Specialized imaging modalities. Includes concepts and theories of equipment operations and their integration for medical diagnosis.

RADR 2305 Principles of Radiographic Imaging II

Prerequisites: RADR 1313, RADR 2401
Credit: 3 (3 lecture, 1 lab)

Radiographic imaging technique formulation. Includes equipment quality control, image quality assurance, and the synthesis of all variables in image production

RADR 2309 Radiographic Imaging Equipment

Prerequisites: RADR 2305, RADR 2331, MATH 1314

Credit: 3 (3 lecture)

A study of the equipment and physics of x-ray production, basic x-ray circuits and relationship of equipment components to the imaging process.

RADR 2331 Advanced Radiographic Procedures

Prerequisite: RADR 1313, RADR 2401

Credit: 3 (2 lecture, 4 lab)

Continuation of positioning; alignment of the anatomical structure and equipment, evaluation of images for proper demonstration of anatomy and related pathology.

RADR 2335 Radiologic Technology Seminar

Prerequisite: all RADR courses or by permission of department chair

Credit: 3 (3 lecture, 1 lab)

A capstone course focusing on the synthesis of professional knowledge, skills and attitudes in preparation for professional employment and lifelong learning.

Course Descriptions

RADR 2340 Sectional Anatomy for Medical Imaging

Prerequisite: RADR 2233

Credit: 3 (3 lecture)

Anatomic relationships that are present under various sectional orientations as depicted by computed tomography or magnetic resonance imaging.

RADR 2360 Clinical - Radiologic Technology/Science - Radiographer

Credit: 3 (15 lab)

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.

RADR 2366 Radiographic Practicum III

Prerequisites: RADR 1267, RADR 2233

Credit: 3 (24 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

RADR 2367 Radiographic Practicum IV

Prerequisites: RADR 2213, RADR 2217, RADR 2366

Credit: 3 (24 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

RADR 2401 Intermediate Radiographic Procedures

Prerequisite: RADR 1303, RADR 1411

Credit: 4 (3 lecture, 4 lab)

A continuation of the study of the proper manipulation of radiographic equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of anatomy.

RECT 1301 Introduction to Therapeutic Recreation

Prerequisite: Department Approval

Credit: 3 (3 lecture)

Introduction to the value, history, philosophy, terminology, process, and outcomes of therapeutic recreation. Emphasis on identification of client groups, leisure activities, application of therapeutic recreation in various human services settings, and professional development and career opportunities.

RECT 1391 Special Topics in Recreational Therapy

Prerequisite: Department Approval

Credit: 3 (lecture and lab hours vary)

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.

RECT 2431 Therapeutic Recreation Program Planning

Prerequisite: Department Approval

Credit: 4 (3 lecture, 3 lab)

Development of the knowledge and skills required to effectively plan recreation and leisure programs that meet the physical, psychological, and social needs of participants. Major topics include assessment techniques, goal writing, developing outcome measures, facilitation and implementation techniques, adaptations, and evaluation.

RELE 1105 Uniform Standards of Professional Appraisal Practice

Credit: 1 (1 lecture)

Provides instruction on current provisions of the Uniform Standards of Professional Appraisal Practice (USPAP). Accredited: Texas Appraisal Licensing and Certification Board.

RELE 1291 Special Topics in Real Estate

Credit: 2 (2 lecture)

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.

RELE 1301 Principles of Real Estate

Credit: 3 (3 lecture)

Overview of licensing as a real estate broker or salesperson. Includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances and liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures, and real estate mathematics. Covers at least three hours of classroom instruction on federal, state, and local laws relating to housing discrimination, housing credit discrimination, and community reinvestment. Fulfills at least 30 of 60 hours of required instruction for salesperson license.

RELE 1303 Real Estate Appraisal

Credit: 3 (3 lecture)

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 1307 Real Estate Investment

Credit: 3 (3 lecture)

Characteristics of real estate investments. Includes techniques of investment analysis, time-valued money, discounted and non-discounted investment criteria, leverage, tax shelters, depreciation, and applications to property tax.

RELE 1309 Real Estate Law

Credit: 3 (3 lecture)

Provides a study of legal concepts of real estate, land description, real property rights, estates in land, contracts, conveyances, encumbrances, foreclosures, recording procedures, and evidence of title.

RELE 1311 law of Contracts

Credit: 3 (3 lecture)

Elements of a contract, offer and acceptance, statute of frauds, specific performanceand remedies for breach, unauthorized practice of law, commission rules relating to use of adopted forms, and owner disclosure requirements.

RELE 1315 Property Management

Credit: 3 (3 lecture)

A study of the role of the property manager, landlord policies, operating guidelines, leases, lease negotiations, tenant relations, maintenance, reports, habitability laws, and the Fair Housing Act.

RELE 1319 Real Estate Finance

Credit: 3 (3 lecture)

An overview of 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, and the state housing agency.

RELE 1321 Real Estate Marketing

Credit: 3 (3 lecture)

A study of real estate professionalism and ethics; characteristics of successful salespersons; time management; psychology of marketing; listing procedures; advertising; negotiating and closing financing; and the Deceptive Trade Practice Act.

RELE 1323 Real Estate Computer Application

Credit: 3 (3 lecture)

A study of the availability of technology, current software, and its ability to help a real estate agent become more productive. Includes database, mapping, mortgage interest, contact management, presentation and real estate related software application packages.

RELE 1324 Loan Origination and Quality Control

Credit: 3 (3 lecture)

An introduction to the mortgage loan application process. Topics include regulatory compliance and documentation; real estate contracts; the mortgage application process, interview techniques; credit, income and property qualification, quality controls and procedures.

RELE 1325 Real Estate Mathematics

Credit: 3 (3 lecture)

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

RELE 1327 Real Estate Commercial Appraisal

Credit: 3 (3 lecture)

Principles and techniques used in the valuation of commercial property. Topics include purposes and functions of an appraisal, social and economic forces affecting value, appraisal case studies, cost, and income approaches to value. Emphasis will be placed on determining gross income, and expenses as a part of the appraisal process. Accredited: Texas Appraiser Licensing and Certification Board.

RELE 1329 Fundamentals of Environmental Issues

Credit: 3 (3 lecture)

A study of environmental issues affecting the real estate industry including hazardous substances, underground storage tanks, wetlands, radon, asbestos, lead, endangered species protection, sick building syndrome and electromagnetic fields.

RELE 1335 Real Estate Construction

Credit: 3 (3 lecture)

A study of the basic principles of design and construction of real estate properties. This course meets part of the educational requirements, as determined by The Texas Real Estate Commission, to become a licensed inspector.

RELE 1338 Principles of Real Estate II

Credit: 3 (3 lecture)

Overview of licensing as a broker or salesperson. Includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances and liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures, and real estate mathematics. Covers at least three hours of classroom instruction on federal, state, and local laws relating to housing, discrimination, housing credit discrimination, and community reinvestment. Fulfills at least 30 of 60 hours of required instruction for salesperson license.

RELE 1371 Loan Processing

Prerequisite: Department Approval

Credit: 3 (3 lecture)

A study of the theoretical and practical framework necessary to understand the complex field of mortgage lending with emphasis on loan application, qualifications, and processing. Also includes the role of lenders, residential loan appraisals, closing, and funding the loan. This course emphasizes workforce training in the areas of loan processing and originating procedures as determined by the needs of industry. Accredited: Texas Savings and Loan Department.

RELE 1372 Basic Appraisal Principles

Credit: 3 (3 lecture)

This introductory appraisal course provides an overview of real property concepts and characteristics, legal consideration, value influences, real estate finance, types of value, economic principles, real estate markets and analysis, and ethics in appraisal practice. Thorough discussion of appraisal principles, accompanied by practical examples, provides a solid foundation in appraisal basics. A calculator is recommended. Tape recorders are not permitted during class lecture sessions.

RELE 1373 Basic Appraisal Procedures

Credit: 3 (3 lecture)

This basic appraisal course provides an overview of real estate appraisal approaches to valuation procedures, value, property description, residential applications, commercial applications, improvement construction, home inspection, and appraisal math. Through theory, case studies, and examples, the course offers practical application of appraisal procedures. A calculator is recommended.

RELE 1381 Cooperative Education - Real Estate

Prerequisite: Department Approval and RELE 2301

Credit: 3 (1 lecture, 20 lab)

Career related activities encountered in the student's area of specialization are offered through an individualized agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines, classroom learning with work experience. Includes a lecture component.

RELE 1391 Special Topics in Real Estate

Prerequisite: Department Approval

Credit: 3 (3 lecture)

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.

RELE 2301 Law of Agency

Credit: 3 (3 lecture)

A study of law of agency including principal-agent and master-servant relationships, the authority of an agent, the termination of an agent's authority, the fiduciary and other duties of an agent, employment law, deceptive trade practices, listing or buying procedures, and the disclosure of an agency. This course is required by The Texas Real Estate Commission for new salesperson applicants.

RELE 2305 Real Estate Inspections

Credit: 3 (3 lecture)

A study of the different types of building systems and materials used in the design and construction of real property. Covers residential construction and commercial building systems and materials. Includes different structural building systems with emphasis on wood-related products, concrete and masonry, brick, stone, and steel units. This course meets part of the educational requirements, as determined by The Texas Real Estate Commission, to become a licensed inspector.

RELE 2307 Real Estate Title and Settlement

Credit: 3 (3 lecture)

Examines the procedural aspects required to research land titles, establish and administer title closings, escrow, determination of settlement requirements, and filing. In addition, the lender's closing instructions, document review, funding procedures, post closing audit and file set up will be presented. This course emphasizes workforce training in the area of closing and funding procedures as determined by the needs of industry. Accredited: Texas Savings and Loan Department.

RELE 2311 Fundamentals of Mortgage Lending

Credit: 3 (3 lecture)

A study of the theoretical and practical framework necessary to understand the complex field of mortgage lending with emphasis on loan application, qualifications, and underwriting. Also includes the role of lenders, security instruments, residential loan appraisals, and closing and funding the loan. This course emphasizes workforce training in the areas of loan processing and underwriting procedures as determined by the needs of industry.

RELE 2331 Real Estate Brokerage

Credit: 3 (3 lecture)

A study of law of agency, planning and organization, operational policies and procedures, recruiting, selection and training of personnel, records and control, and real estate firm analysis and expansion criteria.

RELE 2381 Cooperative Education - Real Estate

Prerequisite: Department Approval and RELE 1381

Credit: 3 (3 lecture)

Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines, classroom learning with work experience. Directly related to a technical

discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary. The student is required to work a minimum of 20 hours a week and attend a weekly seminar. An approved project and final report is required.

RNSG 1105 Nursing Skills I

Prerequisites: RNSG 1251, RNSG 1261, RNSG 1193, RNSG 2201, RNSG 2262, RNSG 2213, RNSG 2263

Corequisites: RNSG 1441, RNSG 2360, RNSG 2221

Credit: 1 (3 Lab)

Study of concepts and principles essential for demonstrating competence in the performance of nursing procedures. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework.

RNSG 1144 Nursing Skills II

Prerequisites: All prerequisites and corequisites to RNSG 1105 and RNSG 2221

Corequisites: RNSG 2361,RNSG 1443, RNSG 2173

Credit: 1 (3 Lab)

Study of concepts and principles necessary to perform intermediate or advanced nursing skills; and demonstrate competence in the performance of nursing procedures. Topics include knowledge, judgment, skills and professional values within a legal/ethical framework.

RNSG 1163 Clinical Nursing -Transition

Prerequisites: RNSG 1301, BIOL 2402, BIOL 2420, PSYC 2314, ENGL 1301

Corequisites: RNSG 1327, RNSG 2213, RNSG 2263

Credit: 1 (3 clinical)

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.

RNSG 1193 Special Topics in Nursing, Pediatrics

Prerequisites: RNSG 1163, RNSG 1327, RNSG 1360, RNSG 1513, PSYC 2314

Corequisites: RNSG 2201, RNSG 2262, BIOL 2420

Credit: 1(1 lecture)

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.

RNSG 1251 Care of the Childbearing Family

Prerequisites: RNSG 1513, RNSG 1360, PSYC 2314 or RNSG 1163, RNSG 1327

Corequisite: BIOL 2420, RNSG 1261

Credit: 2 (2 lecture)

Study of concepts related to the provision of nursing care for childbearing families. Topics may include selected complications. Topics include knowledge judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

RNSG 1261 Clinical Nursing - Childbearing

Prerequisites: RNSG 1513, RNSG 1360, PSYC 2314 or RNSG 1163, RNSG 1327

Corequisites: BIOL 2420, RNSG 1251

Credit: 2 (6 Clinical)

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.

RNSG 1301 Pharmacology

Prerequisite: Administrative Approval

Credit: 3 (3 lecture)

Introduction to the science of pharmacology with emphasis on the actions, interactions, adverse effects, and nursing implications of each drug classification. Topics include the roles and responsibilities of the nurse in safe administration of medications within legal/ethical framework.

RNSG 1327 Transition from Vocational to Professional Nursing

Prerequisites: RNSG 1301, ENGL 1301, PSYC 2314, BIOL 2402, BIOL 2420

Corequisites: RNSG 1163, RNSG 2213, RNSG 2263

Credit: 3 (3 lecture)

Topics include health promotion, expanded assessment, analysis of data, nursing process, pharmacology, multidisciplinary teamwork, communication, and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework throughout the life span.

RNSG 1360 Clinical Nursing-Foundations

Prerequisites: ENGL 1301, PSYC 2301, BIOL 2401, RNSG 1301

Corequisites: BIOL 2402, PSYC 2314, RNSG 1513

Credit: 3 (9 Clinical)

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.

RNSG 1441 Common Concepts of Adult Health

Prerequisites: RNSG 1251, RNSG 1261, RNSG 1193, RNSG 2201, RSNG 2262, RNSG 2213, RNSG 2263

Corequisites: RNSG 1105, RNSG 2360, RNSG 2221

Credit: 4 (4 lecture)

Study of the general principles of caring for selected adult clients and families in structured settings with common medical-surgical health care needs related to each body system. Emphasis on knowledge, judgment, skills, and professional values within a legal/ethical framework.

RNSG 1443 Complex Concepts of Adult Health

Prerequisites: RNSG 1441, RNSG 1105, RNSG 2360, RNSG 2221, or RSNG 1193, RNSG 2201, RNSG 2262, RNSG 1251, RNSG 1261, RNSG 2213, RNSG 2263

Corequisites: RNSG 2361, RNSG 1144, RNSG 2170

Credit: 4 (4 lecture)

Integration of previous knowledge and skills related to common adult health needs into the continued development of the professional nurse as a provider of care, coordinator of care, and member of a profession in the care of adult clients/families in structured health care settings with complex medical-surgical health care needs associated with each body system Emphasis on knowledge, judgments, skills, and professional values within a legal/ethical framework.

RNSG 1513 Foundations for Nursing Practice

Prerequisites: ENGL 1301, PSYC 2301, BIOL 2401, RNSG 1301

Corequisites: RNSG 1360, BIOL 2402, PSYC 2314

Credit: 5 (4 lecture, 3 lab)

Introduction to the role of the professional nurse as provider of care, coordinator of care, and member of the profession. Topics include but are not limited to the fundamental concepts of nursing practice, history of professional nursing, a systematic framework for decision-

making, mechanisms of disease, the needs and problems that nurses help patients manage, and basic psychomotor skills. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework. This course lends itself to a blocked approach. .

RNSG 2130 Professional Nursing Review and Licensure Preparation

Prerequisites: RNSG 1105, RNSG 1441, RNSG 2221, RNSG 2360

Corequisites: RNSG 1443 or Department Approval

Credit: 1 (1 lecture)

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

RNSG 2201 Care of Children and Families

Prerequisites: RNSG 1513, RNSG 1360, and all prerequisites and corequisites to RNSG 1513 and RNSG 1360

Corequisites: BIOL 2420, RNSG 1193, RNSG 2262

Credit: 2 (2 lecture)

Study of concepts related to the provision of nursing care for children and families, emphasizing judgment, and professional values within a legal/ethical framework.

RNSG 2213 Mental Health Nursing

Prerequisites: RNSG 1513, RNSG 1360

Corequisites: RNSG 2263 or RNSG 1163, RNSG 1327

Credit: 2 (2 lecture)

Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of clients and their families.

RNSG 2221 Management of Client Care

Prerequisites: RNSG 2213 and RNSG 2360 or RNSG 1327 and RNSG 1163

Corequisites: RNSG 1441 and RNSG 2360 or RNSG 1251, RNSG 1261, RNSG 2201, RNSG 2262, RNSG 1105 and RNSG 1193

Credit: 2 (2 lecture)

Exploration of leadership and management principles applicable to the role of the nurse as a provider of care, coordinator of care, and member of a profession. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework.

RNSG 2262 Clinical Nursing - children

Prerequisites: RNSG 1513, RNSG 1360, PSYC 2314, RNSG 1163, RNSG 1327 or RNSG 1327, RNSG 1163

Corequisites: BIOL 2420, RNSG 2201, RNSG 1193

Credit: 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.

RNSG 2263 Clinical Nursing - Mental health

Prerequisites: RNSG 1513, RNSG 1360
Corequisites: RNSG 2213 or RNSG 1163, RNSG 1327

Credit: 2 (6 Clinical)

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.

RNSG 2360 Clinical Nursing - Adult I

Prerequisites: RNSG 1301, RNSG 2213, RNSG 2263, RNSG 1251, RNSG 1261, RNSG 2201, RNSG 2262

Corequisites: RNSG 1441, RNSG 2221, RNSG 1105

Credit: 3 (9 clinical)

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.

RNSG 2361 Clinical Nursing - Adult II

Prerequisites: RNSG 1441, RNSG 2360 and RNSG 2221 or RNSG 1251, RNSG 1261, RNSG 2201, RNSG 1193, RNSG 1105 and RNSG 2262

Corequisite: RNSG 1144, RNSG 1443, RNSG 2130

Credit: 3 (9 clinical)

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.

RSPT 1240 Advanced Cardiopulmonary Anatomy and Physiology

Prerequisite: RSPT 1307

Credit:2 (2 lecture)

Provides an advanced presentation of anatomy and physiology of the cardiovascular and pulmonary system.

RSPT 1307 Cardiopulmonary Anatomy and Physiology

Credit: 3 (3 lecture)

An introduction to the anatomy and physiology of the cardiovascular, and pulmonary systems.

RSPT 1310 Respiratory Care Procedures I

Corequisite: RSPT 1361

Credit: 3 (2 lecture, 4 lab)

Provides students with the essential knowledge of the equipment and techniques used in the treatment of pulmonary disease and their clinical application. The following areas are discussed in-depth: oxygen therapy, humidity and aerosol therapy, hyperinflation therapy, chest physiotherapy, pulse oximetry, arterial puncture, and interpretation.

RSPT 1311 Respiratory Care Procedures II

Corequisite: RSPT 1362
Prerequisite: RSPT 1361

Credit: 3 (2 lecture, 4 lab)

Provides student with essential knowledge of airway care and mechanical ventilation. Airway care includes indications, techniques, equipment, and hazards and complications. Mechanical ventilation includes indications, initiation, modes, clinical application, management, complications, and weaning.

RSPT 1325 Respiratory Care Sciences

Credit: 3 (3 lecture)

A study of cardiopulmonary sciences including physics, math, chemistry, and statistics.

RSPT 1361 Clinical - Respiratory Care Therapy/Therapist

Credit: 3 (16 lab)

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.

RSPT 1362 Clinical-Respiratory care Therapy/Therapist

Prerequisite: RSPT 1361

Credit: 3 (16 lab)

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.

RSPT 2166 Practicum (or Field Experience) - Respiratory Care Therapy/ Therapist

Prerequisite: RSPT 1362

Credit: 1 (16 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

Course Descriptions

RSPT 2231 Simulations in Respiratory Care

Prerequisites: RSPT 1361, RSPT 1362, RSPT 2166, RSPT 2233, RSPT 2360, RSPT 2314, RSPT 2358

Credit: 2 (1 lecture, 3 lab)

Theory and history of clinical simulation examinations. Includes construction types, scoring, and mechanics of taking the computerized simulation examination.

RSPT 2233 Respiratory Care Case Management

Prerequisite: RSPT 2314

Credit: 2 (2 lecture, 1 lab)

Preparation and presentation of the case study. Instruction in the investigation, organization, and presentation of the material, including preparation of questions for group discussion.

RSPT 2239 Advanced Cardiac Life Support

Prerequisites: RSPT 2317, RSPT 2325

Credit: 2 (1 lecture, 2 lab)

A comprehensive course designed to develop the cognitive and psychomotor skills necessary for resuscitation of the adult. Strategies for managing and stabilizing the cardiopulmonary arrested patient will be included.

RSPT 2255 Critical Care Monitoring

Prerequisite/Corequisite: RSPT 2305

Credit: 2 (2 lecture)

Introduction to monitoring techniques used clinically to assess a patient in the critical care setting.

RSPT 2258 Respiratory Care Patient Assessment

Credit: 2 (2 lecture)

Instruction in the integration of patient examination techniques, clinical lab studies, x-ray, pulmonary function, arterial blood gases, and invasive and non-invasive hemodynamics results in patient assessment.

RSPT 2266 Practicum (or Field Experience) - Respiratory Care Therapy/ Therapist

Corequisite: RSPT 2231
Credit: 2 (16 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

RSPT 2305 Pulmonary Diagnostics

Prerequisite: RSPT 1307

Credit: 3 (3 lecture)

The theories and techniques involved in pulmonary function testing diagnostics with emphasis on blood gas theory and analysis, quality control, oximetry, and capnography.

RSPT 2310 Cardiopulmonary Disease

Prerequisite: RSPT 1307

Credit: 3 (3 lecture)

A discussion of pathogenesis, pathology, diagnosis, history, prognosis, manifestation, treatment, and detection of cardiopulmonary diseases.

RSPT 2314 Mechanical Ventilation

Prerequisite: RSPT 1311

Credit: 3 (3 lecture)

Preparation to conduct the therapeutic procedures to achieve adequate, spontaneous, and artificial ventilation with emphasis on ventilator classification, methods, principles, and operational characteristics. Also included are the indications, complications, and physiologic effects/principles of mechanical ventilation.

RSPT 2317 Respiratory Care Pharmacology

Credit: 3 (3 lecture)

A study of pharmacological principles/practices of drugs which affect the cardiopulmonary systems. Emphasis on classification, route of administration, dosages/calculations, and physiological interactions.

RSPT 2325 Cardiopulmonary Diagnostics

Prerequisite: RSPT 2305

Credit: 3 (3 lecture)

A study of physical, radiological, hemodynamic, laboratory, nutritional, and cardiopulmonary diagnostic assessment of the pulmonary patient.

RSPT 2353 Neonatal/Pediatric Cardiopulmonary Care

Corequisite: RSPT 2361

Credit: 3 (3 lecture)

A study of acute care, monitoring, and management as applied to the neonatal and pediatric patient.

RSPT 2360 Clinical- Respiratory Care Therapy/Therapist

Prerequisite: RSPT 2166

Credit: 3 (16 lab)

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.

RSPT 2361 Clinical- Respiratory Care Therapy/Therapist

Prerequisite: RSPT 2360

Credit: 3 (16 lab)

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.

RSTO 1301 Beverage Management

Credit: 3 (3 lecture)

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 1304 Dining Room Service

Credit: 3 (2 lecture, 3 lab)

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

RSTO 1325 Purchasing for Hospitality Operations

Credit: 3 (3 lecture)

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 comparison, proper receiving procedures, storage management, and issue procedures. Emphasis on product cost analysis, yield, pricing formulas, controls, and record keeping at each stage of the purchasing cycle.

RSTO 1491 Special Topics in Food and Beverage/restaurant operations manager - Principles of Food Preparation

Credit: 4 (lecture, lab - Varies)

Topics address recently identified current events, skills, knowledge's, 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.

RSTO 2301 Principles of Food and Beverage Controls

Credit: 3 (3 lecture)

A study of financial principle and controls of food service operation including review of operation policies and procedures. Topics include financial budgeting and cost analysis emphasizing food and beverage labor costs, operational analysis, and internal and regulatory reporting procedures.

RTVB 1240 Audio/radio Production Lab II

Prerequisite: MUSC 1427, MUSC 1331

Corequisite: MUSC 2427

Credit: 2 (1 lecture, 4 lab)

Introduces through practical hands-on experience the equipment and procedures used in multitrack recording and computer audio programs such as Pro Tools, Acid, Digital Performer, Jam and Spark. Topics include basic tracking, simple overdubs, CD mastering and audio editing. Students will participate in 32 hours of recording sessions and 32 hours of open lab.

RTVB 1317 Convergence of Electronic Media

Credit: 3 (3 lecture)

History and future of electronic media. Includes radio, television, Internet, and convergent technologies. Recognizes regulatory and economic issues. Explores career opportunities in electronic media.

RTVB 1401 Broadcast News Writing

Prerequisite: ENGL 1301

Credit: 4 (3 lecture, 2 lab)

Instruction in the writing of news copy according to standard broadcast formats.

RTVB 1409 Audio/Radio Production I

Credit: 4 (2 lecture, 6 lab)

Concepts and techniques of sound production including basic recording, mixing and editing techniques.

RTVB 1421 TV Field Production

Credit: 4 (3 lecture, 4 lab)

Production and post-production process involved in field television production. Topics include field camera setup and operation, field audio, television directing, and in-camera or basic continuity editing with emphasis on underlying principles of video technology. Students are required to attend additional lab hours outside of class.

RTVB 1425 TV Studio Production

Prerequisite: RTVB 1317

Credit: 4 (3 lecture, 4 lab)

Basic television production. Includes studio program content, studio camera operation, and television audio.

RTVB 1429 Scriptwriting

Prerequisite: ENGL 1301

Credit: 4 (3 lecture, 2 lab)

Writing scripts for film and electronic media. Emphasizes format and style for commercials, public service announcements, promos, news, and documentaries.

RTVB 1447 Audio/Radio Production II

Prerequisite: RTVB 1409

Credit: 4 (3 lecture, 2 lab)

Audio production theories regarding multitrack recording, studio live production and equipment operation.

RTVB 1455 Radio and Television Announcing

Credit: 4 (3 lecture, 2 lab)

Radio and television announcing skills such as voice quality, articulation, enunciation and pronunciation. Preparation for opportunities in announcing employment in news, sports, commercial, voice talent and disk jockey, and radio and TV.

RTVB 1472 Videotape Editing

Credit: 4 (3 lecture, 2 lab)

An overview of the principles of video/audio post-production editing from tape-to-tape linear editing. It includes fundamental electronic concepts, assemble editing, audio and video insert editing, equipment operation, story construction, special effects utilization, EDL formation and utilization, and control track vs. time code editing. There will be extensive hands-on experience.

RTVB 2232 Audio Production Lab III

Prerequisite: MUSC 2427, MUSC 2355

Corequisite: MUSC 2447

Credit: 2 (1 lecture, 4 lab)

Topics include special effects, automated overdubbing, operation of specific recording equipment commonly found in large format multi-track audio facilities, mixing, and equalization. Complete one recording project using the lab time and facilities.

RTVB 2343 Commercial Recording Techniques

Prerequisite: MUSC 2447

Credit: 3 (2 lecture, 4 lab)

Student will operate audio production and editing equipment, coordinate and direct music production projects from booking to post- production, and characterize the music industry and surrounding labor market. This class provides a capstone experience during which the student will use all of the skills acquired throughout this program. Students are required to attend additional lab hours outside of class.

RTVB 2382 Cooperative Education

Prerequisite: MUSC 2447

Credit: 3 (1 lecture, 20 lab)

As outlined in the learning plan, the student will master the theory, concepts and skills involving the tools, materials, equipment, procedures, regulations, laws and interactions within and among political, economic, environmental and legal systems associated with the particular occupation and the business/ industry; demonstrate ethical behavior, safety practices, interpersonal and teamwork skills, communicating in the applicable technical language of the occupation and the business or industry. This class provides a capstone experience during which the student will use all of the skills acquired throughout this program.

RTVB 2430 Film and Video Editing

Prerequisite: Department Approval

Credit: 4 (3 lecture, 4 lab)

Film and broadcast editing for the preparation and completion of shorts, trailers, documentaries, and features.

RTVB 2435 Television Production

Prerequisite: RTVB 1421 and RTVB 1425

Credit: 4 (3 lecture, 4 lab)

Pre-production, production, and post-production process involved in multiple-camera studios. Includes advanced instruction in camera operation, lighting, audio, and television directing.

RTVB 2437 TV Production Workshop I

Prerequisite: RTVB 1421

Credit: 4 (2 lecture, 6 lab)

A study of advanced application and design of video productions in location or studio shoots. This course provides information necessary to understand the production of professional video recordings. Basic camera, lighting, and recording skills will be introduced and reinforced with hands-on training. Students are required to attend additional lab hours outside of class.

RTVB 2486 Internship–Radio and Television Broadcasting

Prerequisite: RTVB 1317 and Department Approval

Credit: 4 (21 lab)

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.

RUSS 1300 Beginning Russian Conversation I

Credit: 3 (3 lecture)

An introductory Russian course which emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than Russian 1411. This course is highly recommended for students without previous experience in the Russian language. It is not open to students whose first language is Russian. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

Course Descriptions

RUSS 1310 Beginning Russian Conversation II

Prerequisite: RUSS 1311 or equivalent

Credit: 3 (3 lecture)

Continuation of RUSS 1311. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of Russian following this course must take RUSS 1411.

RUSS 1411 Beginning Russian I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Introduction to Russian language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

RUSS 1412 Beginning Russian II

Prerequisite: RUSS 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school Russian within the last two years Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Continuation of RUSS 1411.

Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

RUSS 2311 Intermediate Russian I

Prerequisite: RUSS 1412 or equivalent Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Russian. Study of more complex language structures. Oral and written practice based on readings and dialogues. Directed composition. Class conducted largely in Russian. Core Curriculum Course.

RUSS 2312 Intermediate Russian II

Prerequisite: RUSS 2311 or equivalent Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Continuation of RUSS 2311. Oral practice and compositions based on readings. Class conducted mainly in Russian. Core Curriculum Course.

SCIT 1407 Applied Human Anatomy and Physiology I

Credit: 4 (4 lecture, 1 lab)

An applied systematic study of the structure and function of the human body designed for students considering a career in the health field. Includes anatomical terminology, cells, tissues, and the following systems: integumentary, skeletal, muscular, nervous, and endocrine. Emphasis on homeostasis.

SCIT 1408 Applied Human Anatomy and Physiology II

Prerequisite: SCIT 1407

Credit: 4 (4 lecture, 1 lab)

A continuation of Applied Human Anatomy and Physiology I designed for students considering a career in the health field. The following body systems are included: digestive, respiratory, cardiovascular, lymphatic/immune, renal/excretory, and reproductive. Emphasis is on homeostasis.

SCIT 1414 Applied General Chemistry I

Prerequisite: SCIT 1414 or CHEM 1411 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Applications of general chemistry emphasizing industry-related laboratory skills and competencies including laboratory safety and report writing. Addresses supporting chemical theories including atomic and molecular structure, nomenclature, chemical reactivity, gas laws, acids and bases, and solutions.

SCIT 1415 Applied General Chemistry II

Prerequisite: SCIT 1414 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Applications of general chemistry emphasizing industry-related laboratory skills and competencies including laboratory safety and report writing. Addresses supporting chemical theories including covalent bonding, thermodynamics, equilibrium, reaction rates, electrochemistry, nuclear chemistry, and organic compounds.

SCIT 1418 Applied Physics

Prerequisite: MATH 1314 or Department Approval

Credit: 4 (3 lecture, 3 lab)

Introduction to physics for industrial applications including vectors, motion, mechanics, simple machines, matter, heat, and thermodynamics.

SCIT 1543 Applied Analytical Chemistry

Prerequisite: SCIT 1414 and MATH 1314 or CHEM 1411 and MATH 1314 or Department Approval

Credit: 5 (3 lecture, 4 lab)

Principles of quantitative analysis as related to industrial applications. Includes gravimetric and titrimetric analysis of practical samples by classical and standard methods.

SCIT 2401 Applied Organic Chemistry I

Prerequisite: SCIT 1414 or CHEM 1411 or
Department Approval

Credit: 4 (2 lecture, 4 lab)

Applications of the chemistry carbon emphasizing industry-related laboratory skills and competencies.

SCIT 2402 Applied Organic Chemistry II

Prerequisite: SCIT 2401

Credit: 4 (2 lecture, 4 lab)

Continuation of the applications of the chemistry of carbon compounds emphasizing industry-related laboratory skills and competencies. Includes reaction mechanisms, spectroscopy, and synthetic methods.

SCWK 1391 Special Topics in Social Work

Credit: 3 (3 lecture)

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.

SCWK 2307 Human Behavior and the Social Environment

Credit: 3 (3 lecture)

A basic framework for creating and organizing knowledge of human behavior and the social environment. Introduction of social system, life span, and strength approaches to understanding human behavior and environmental impact. Emphasis on the impact of human diversity, discrimination, and oppression on the individual's ability to reach or maintain optimal health and well-being.

SGNL 1301 American Sign Language (ASL): Beginning I

Credit: 3 (2 lecture, 2 lab)

An introduction to the basic skills in production and comprehension of American Sign Language (ASL). Includes the manual alphabet and numbers. Develops conversational ability, culturally appropriate behaviors, and exposes students to ASL grammar. Student must complete the course with a 'B' or better.

SGNL 1302 American Sign Language (ASL): Beginning II

Prerequisite: SGNL 1301 or SLNG 1304

Credit: 3 (2 lecture, 2 lab)

Develops receptive and expressive ability and allows recognition and demonstration of more sophisticated grammatical features of American Sign Language (ASL). Increases fluency and accuracy in fingerspelling and numbers. Provides opportunities for interaction within the deaf community. Student must complete the course with a 'B' or better.

SGNL 2301 American Sign Language: INTERMEDIATE I

Prerequisite: SGNL 1302 or SLNG 1305

Credit: 3 (2 lecture, 2 lab)

Integrates and refines expressive and receptive skills in American Sign Language (ASL), including recognition of sociolinguistic variation. A practice oriented approach to language acquisition, including the use of multimedia. Student must complete the course with a 'B' or better.

SGNL 2302 AMERICAN SIGN LANGUAGE (ASL): INTERMEDIATE II

Prerequisite: SGNL 2301 or SLNG 1344

Credit: 3 (2 lecture, 2 lab)

An integration of expressive and receptive skills with emphasis on literature, discourse styles, and contextualization at an intermediate level. Provides students with information on idiomatic/ colloquial usages for signs and grammatical structures for complex sentences. Student must complete the course with a 'B' or better.

SLNG 1248 Visual/Gestural Communication

Credit: 2 (1 lecture, 3 lab)

A course in vocabulary building in English and American Sign Language for interpreters.

SLNG 1304 American Sign Language (ASL) I

Prerequisite: SGNL 1311

Credit: 3 (2 lecture, 2 lab)

An introduction to the basic skills in production and comprehension of American Sign Language (ASL). Includes the manual alphabet and numbers. Develops conversational ability, culturally appropriate behaviors, and exposes students to ASL grammar. Student must complete the course with a 'B' or better.

SLNG 1305 American Sign Language (ASL) II

Prerequisite: SLNG 1304

Credit: 3 (2 lecture, 2 lab)

Develops receptive and expressive ability and allows recognition and demonstration of more sophisticated grammatical features of American Sign Language (ASL). Increases fluency and accuracy in fingerspelling and numbers. Provides opportunities for interaction within the deaf community.

SLNG 1311 Fingerspelling Number Signs (ASL)

Credit: 3 (2 lecture, 2 lab)

Develops expressive and receptive fingerspelling skills. Receptive skills focus on whole word phrase recognition and fingerspelling/number comprehension in context. Expressive skills focus on the development of speed, clarity, and fluency.

SLNG 1317 Introduction to Deaf Community

Credit: 3 (3 lecture)

An overview of the physical, educational, social, and cultural implications within the context of a deaf or hard-of-hearing individual's personal life, family, and community in today's multicultural world. Emphasis on current educational and vocational programs, legislation, technology, oppression, and other issues.

SLNG 1321 Introduction to the Interpreting Profession

Credit: 3 (2 lecture, 2 lab)

An overview of the field of sign language interpretation. Provides a historical framework for the principles, ethics, roles, responsibilities, and standard practices of the interpreting profession.

SLNG 1344 American Sign Language (ASL) III

Prerequisite: SLNG 1304, SLNG 1305

Credit: 3 (2 lecture, 2 lab)

Integrates and refines expressive and receptive skills in American Sign Language (ASL), including recognition of sociolinguistic variation. A practice oriented approach to language acquisition.

SLNG 1345 American Sign Language (ASL) IV

Prerequisite: SLNG 1344

Credit: 3 (2 lecture, 2 lab)

An integration of expressive and receptive skills in American Sign Language (ASL) with emphasis on grammar, linguistics, literature, and discourse styles at an intermediate level. Provides students with information on linguistic and cultural variations.

SLNG 1347 Deaf Culture

Credit: 3 (3 lecture)

Provides a historical and contemporary perspective of American deaf culture using a sociocultural model. Includes cultural identity and awareness, values, group norms, communication, language, and significant contributions made by deaf people to the world.

SLNG 1380 Cooperative Education - Sign Language Interpretation and Translation

Prerequisites: SLNG 2301, SLNG 2302, SLNG 2315, SLNG 2331 and Department Approval

Credit: 3 (1 lecture, 10 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

SLNG 1391 Special Topics in Sign Language Interpreting

Prerequisite: Department Approval

Credit: 3 (2 lecture, 2 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

SLNG 2301 Interpreting I

Prerequisites: SLNG 1211, SLNG 1215, SLNG 1304, SLNG 1305, SLNG 1321

Credit: 3 (2 lecture, 2 lab)

An overview of the interpreting process and models of interpretation. Introduces the skills necessary to achieve message equivalency in interpreting American Sign Language (ASL) to English and English to ASL.

SLNG 2302 Interpreting II

Prerequisites: SLNG 2301, SLNG 1344, SLNG 1345

Credit: 3 (2 lecture, 2 lab)

Enhancement of interpreting skills and discourse analysis of increasingly complex tasks utilizing consecutive and interactive interpreting experiences including multimedia materials. Emphasis on skill analysis and peer evaluation.

SLNG 2311 Specialized Interpreting/ Transliterating

Prerequisites: SLNG 2301, SLNG 2302, SLNG 1344, SLNG 1345

Credit: 3 (2 lecture, 2 lab)

Overview of interpreting/transliterating with special populations (e.g., deaf/blind, high visual, oral) in special settings (e.g., religious, artistic, medical, legal, mental health). Reinforce

interpreting theories and techniques in relation to special population(s) and/or setting(s).

SLNG 2315 interpreting in educational settings

Prerequisites: SLNG 2301, SLNG 2302

Credit: 3 (2 lecture, 2 lab)

Increases awareness of current techniques, issues, and ethics in mainstreaming and bilingual/bicultural education practices. Includes a survey of technical signs and signed English systems currently in use, i.e., Cueing and MCE.

SLNG 2331 interpreting III

Prerequisites: SLNG 2301, SLNG 2302

Credit: 3 (2 lecture, 2 lab)

A practice oriented course to strengthen skills in the integration and application of processing more complex source materials. Continued exposure to simulated interpreting experience including multimedia material.

SLNG 2388 Internship - Sign Language Interpretation and Translation

Prerequisites: SLNG 2302, SLNG 2311, SLNG 2331 and Department Approval

Credit: 3 (9 lab)

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.

SLNG 2389 Internship - Sign Language Interpretation and Translation

Prerequisites: SLNG 2388 and Department Approval

Credit: 3 (9 lab)

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.

SOCI 1301 Introduction to Sociology

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A survey course which focuses on the nature of human groups in American and world societies, their social and cultural adaptations, and the impact which various social processes may have on their social organization and social change. Core Curriculum Course.

SOCI 1306 Contemporary Social Problems

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

An inquiry into selected current social problems with specific reference to their original development, and suggested solutions. Core Curriculum Course.

SOCI 2301 Marriage and the Family

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

This course is a sociological analysis of marriage and family relations based on fundamental principles in the discipline. Both theory and current research findings are covered. Areas explored include family dynamics, interpersonal relations, demographic trends, and conflict management. Current and classical research is reviewed and applied. Core Curriculum Course.

SOCI 2319 Minority Studies I

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

An indepth theoretical and practical Sociological analysis that examines historical and contemporary minority issues including race and ethnicity using historical and modern demographic data such as life span, birth rates, marriage patterns, business ownership, educational attainment, migration data, and assimilation/pluralism patterns as well as the impact of economic and social globalization on minorities in the United States and the world. Core Curriculum Course

SOCI 2336 Criminology

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

An analysis of the social dimensions of crime as a form of deviant behavior; the nature and extent of crime; classic and modern theories; the role of the police and the courts, group and community oriented programs, with an evaluation of prevention, control, and treatment programs. Core Curriculum Course.

SOCI 2374 Global Issues and Social CHANGE

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A macro level analysis of the dynamic processes of change affecting the increasingly global community, with emphasis on the role of technology. The course will focus on current trends in the broad topics of human ecology, human rights, the environment, culture and the social institutions. Special attention will be devoted to the conflict and security, international governmental and nongovernmental entities, social movements, and the role of the "global citizen". Core Curriculum Course.

SPAN 1300 Beginning Spanish Conversation I

Credit: 3 (3 lecture)

An introductory Spanish course which emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than Spanish 1411. It is highly recommended for students without previous experience in the Spanish language. This course is not open to students whose first language is Spanish. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

SPAN 1305 Elementary Spanish Review

Prerequisite: test placement

Credit: 3 (3 lecture)

Designed for students who enter with two or more years of high school Spanish but are not prepared to do work at the intermediate level. May not be taken for credit by students who have credit for SPAN 1411 or SPAN 1412.

SPAN 1310 Beginning Spanish Conversation II

Prerequisite: SPAN 1300 or equivalent

Credit: 3 (3 lecture)

Continuation of SPAN 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of Spanish following this course must take SPAN 1411.

SPAN 1411 Beginning Spanish I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Introduction to the Spanish language and Hispanic culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

SPAN 1412 Beginning Spanish II

Prerequisite: SPAN 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school Spanish within the last two years; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Continuation of SPAN 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

SPAN 2306 Intermediate Conversational Spanish

Prerequisite: SPAN 1412 or SPAN 1310

Credit: 3 (3 lecture)

Refinement of conversational skills through practice of idiomatic usage and discussion of contemporary issues and/or current events.

SPAN 2311 Intermediate Spanish I

Prerequisite: SPAN 1412 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Spanish. Presentation of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in Spanish. Core Curriculum Course.

SPAN 2312 Intermediate Spanish II

Prerequisite: SPAN 2311 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Continuation of SPAN 2311. Special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in Spanish. Core Curriculum Course.

SPAN 2313 Spanish for Native Speakers I

Prerequisite: test placement; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Designed for Hispanic-American and other students from a Spanish speaking background. Emphasis on basic skills in reading, spelling, and composition. Credit will not be given for both SPAN 2313 and SPAN 2311.

SPAN 2315 Spanish for Native Speakers II

Prerequisite: SPAN 2313; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 3 (3 lecture)

Continuation of SPAN 2313. Continued development of reading and writing skills and control of universal Spanish style.

SPAN 2316 Career-Oriented Conversational Spanish

Prerequisite: SPAN 2311

Credit: 3 (3 lecture)

A course emphasizing the development of listening and speaking skills at the intermediate level. The course will use vocabulary, structures, conversational situations and cultural information appropriate for a designated activity or topic such as business, music, travel or other specialized areas. Each time the course is offered, the particular focus will be specified. May be repeated for credit with permission of the Dean.

SPAN 2321 Readings in Spanish Literature

Prerequisite: SPAN 2312

Credit: 3 (3 lecture)

An introduction to Spanish literature through representative selections by major Spanish authors. Conducted in Spanish. Core Curriculum Course.

SPAN 2323 Readings in Latin American Literature

Prerequisite: SPAN 2312

Credit: 3 (3 lecture)

An introduction to Latin American literature through representative selections from major Latin American authors. Conducted in Spanish. Core Curriculum Course.

SPCH 1146 Parliamentary Law and Procedure

Credit: 1 (0 lecture, 3 lab)

Parliamentary law and procedure as needed by club leaders and sponsors of school clubs and other organizations. Course includes lecture material, practice sessions with hypothetical cases and the reading of collateral material from library sources.

SPCH 1311 Fundamentals of Speech

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A survey course in the basic principles of oral communication. Includes the study of the use of the body and voice, the speaker-listener relationship, and preparation and delivery of platform speeches. Open to all students. Required for speech majors.

SPCH 1315 Public Speaking

Prerequisites: SPCH 1311 or ENGL 1301 or Department Approval.

Credit: 3 (3 lecture)

Designed to develop proficiency in public speaking situations; emphasis on content, organization, and delivery of speeches for various occasions. Open to all students. Required for speech majors.

SPCH 1318 Interpersonal Communication

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

A course designed to improve the student's effectiveness in small-group and one-to-one communication. Open to all students. Required for speech majors. Core Curriculum Course.

SPCH 1321 Business and Professional Speaking

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Applies the techniques of oral communication to situations most common to business and professional people. Covers discussion methods, conference techniques, committee reports, instructions, lectures, and public speeches. Open to all students. Required for speech majors.

SPCH 1342 Voice and Diction I

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Training in the effective use of the voice and body. Includes study of the vocal mechanism and the phonetic alphabet; improvement of enunciation, pronunciation, and articulation.

Course Descriptions

Recommended for non-native speakers. Open to all students. Required for speech majors.

SPCH 2333 Discussion and Small Group Communication

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Examines the dynamics of small group communication and discussion situations, including body language. Open to all students, required of majors.

SPCH 2335 Debate

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Study of principles of argumentation and debate. Practice in preparing written and spoken arguments. Open to all students.

SPCH 2341 Interpretive Reading

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 3 (3 lecture)

Cultivation of the art of oral presentation of literary forms, analysis of thought, development of imagination, communication of emotional values, and individual projects in interpretive reading. Open to all students. Required for speech majors.

SRGT 1201 Medical Terminology

Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

Credit: 2 (2 lecture)

Study of the basic structure of medical words including prefixes, suffixes, roots, combining forms, plurals, pronunciation, spelling, and the definitions of medical terms. Emphasis is on building a professional vocabulary required for employment within the allied health care field.

SRGT 1361 Clinical - Surgical Technology/ Technologist

Prerequisite: Department Approval

Credit: 3 (9 clinical)

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.

SRGT 1391 Special Topics in Surgical/ Operating Room Technician

Credit: 3 (3 lecture)

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.

SRGT 1405 Introduction to Surgical Technology

Credit: 4 (3 lecture, 3 lab)

Orientation to surgical technology theory, surgical pharmacology and anesthesia, technological sciences, and patient care concepts.

SRGT 1409 Fundamentals of Aseptic Technique

Credit: 4 (3 lecture, 3 lab)

In-depth coverage of perioperative concepts such as aseptic principles and practices, infectious processes, wound healing, and creation and maintenance of the sterile field.

SRGT 1441 Surgical Procedures I

Prerequisites: SRGT 1405, SRGT 1409

Credit: 4 (3 lecture, 3 lab)

Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the general, OB/GYN, genitourinary, and orthopedic surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.

SRGT 1442 Surgical Procedures II

Prerequisite: SRGT 1441

Credit: 4 (3 lecture, 3 lab)

Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the thoracic, peripheral vascular, plastic/ reconstructive, EENT, cardiac, and neurological surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.

SRGT 1463 Clinical - Surgical Technology/ Technologist

Prerequisite: SRGT 1361

Credit: 4 (24 clinical)

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.

SRGT 2130 Professional Readiness

Credit: 1 (1 lecture, 1 lab)

Transition into the professional role of the surgical technologist. Includes professional readiness for employment, attaining certification, and maintaining certification status. A capstone experience may be included.

SRGT 2463 Clinical - Surgical Technology/ Technologist

Prerequisite: SRGT 1463

Credit: 4 (17 clinical)

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.

SRVY 1301 Introduction to Surveying

Credit: 3 (3 lecture)

An overview of the surveying profession. An introduction to research methods, to simple equipment used in making measurements, to data collection, and to organization of note keeping. Emphasis on horizontal and vertical measurements, leveling methods, and pencil manuscript mapping by coordinates.

TECA 1303 Family, School, and Csommunity

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

A study of the relationship between the child, the family, the community and early childhood educators, including a study of parent education, family and community life-styles, child abuse and current family issues. Field of Study Course.

TECA 1311 Educating Young Children

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (3 lecture)

An introduction to the profession of early childhood education, focusing on developmentally appropriate practices, types of programs, historical perspectives, ethics and current issues. Field of Study Course.

TECA 1318 Wellness of the Young Child

Prerequisites: Must be placed into college-level reading and college-level writing.

Credit: 3 (2 lecture, 3 lab)

A study of nutrition, health, and safety including community health, universal health precautions, and legal implications as well as the practical application of these principles in a variety of settings. Field of Study Course.

TECA 1354 Child Growth and Development

Credit: 3 (3 lecture)

A study of the principles of normal child growth and development from conception through adolescence. Focus on physical, cognitive, social and emotional domains of development. Field of Study and Core Curriculum Course. (Cross-listed with PSYC 2308)

TECM 1303 Technical Calculations

Credit: 3 (3 lecture)

Specific mathematical calculations required by business and industry. Includes whole numbers, fractions, mixed numbers, decimals, percents, ratios, and proportions. Also covers converting to different units of measure (standard and/or metric).

TRVM 1300 Introduction to Travel and Tourism

Credit: 3 (3 lecture)

An overview of the travel industry. Emphasis on travel careers and the impact of tourism on society.

TRVM 1306 Travel Automation I

Prerequisite: TRVM 1300 and TRVM 1313, or Department Approval

Credit: 3 (2 lecture, 2 lab)

An introduction to computer training using one of the major computer reservation systems for the travel industry.

TRVM 1308 Travel Destinations I - Western Hemisphere

Credit: 3 (3 lecture)

Study of countries located in the Western Hemisphere including Canada, United States, Latin America, South America, and the Caribbean Islands. Emphasis on the culture, customs, seasonal attractions, climate, physical features, language, currency, political conditions, and how they affect both the business and leisure traveler.

TRVM 1313 Ticketing Forms and Procedures

Credit: 3 (3 lecture)

An introduction to manual travel agency operations and basic hands-on reservations techniques. An overview of the ARC ticketing, forms, and procedures.

TRVM 1323 Group Tour Operations

Credit: 3 (3 lecture)

A study of the role of the group planner, selling to groups, and planning itineraries, including components of a tour package, tour costing, advertising and promotion, group dynamics, and tour guide qualifications.

TRVM 1327 Special Events Design

Credit: 3 (3 lecture)

The development of a special event from the conceptual stage through completion. Emphasis on industry terminology, factors to consider when planning a special event, and contingency plans.

TRVM 1341 Travel Destinations II - Eastern Hemisphere

Credit: 3 (3 lecture)

Study of countries located in the Eastern Hemisphere including Europe, Asia, Africa, Middle East, Australia, and New Zealand. Emphasis on the culture, customs, climate, physical features, language, currency, and political conditions and how they affect both the business and leisure traveler.

TRVM 1345 Travel and Tourism Sales and Marketing Techniques

Credit: 3 (3 lecture)

A study of marketing, sales techniques, promotions, and advertising theories as applied to the travel and tourism industry. Exposure to the marketing mix relating to market segmentation, market planning, advertising, and other communication techniques. Emphasis on role playing scenarios and consumer buying behavior. Product-service mix will be addressed.

TRVM 1348 INTERNATIONAL FARE CONSTRUCTION

Credit: 3 (3 lecture)

A survey of international ticket pricing, fare construction, and ticketing.

TRVM 1391 Special Topics/Travel Retail Sales

Credit: 3 (3 lecture)

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.

TRVM 2305 Travel Industry Management

Credit: 3 (3 lecture)

An overview of mid-management responsibilities within the travel and tourism industry. Students will describe the management functions including: analyzing, coordinating, implementing, and supervising tasks of managing a business.

TRVM 2335 Travel Automation II

Prerequisite: TRVM 1306

Credit: 3 (2 lecture, 2 lab)

A continuation of the study of airline computer reservation systems. Emphasis on reserving cars and hotels, using queues, creating passenger profiles, interpreting air fares, rules, and routing, and explaining these to passengers.

TRVM 2380 Cooperative Education - Tourism and Travel Services Management

Prerequisite: 6 semester hours in TRVM courses and Department Approval

Credit: 3 (1 lecture, 20 hours work experience)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

TRVM 2381 Cooperative Education - Tourism and Travel Services Management

Prerequisite: TRVM 2380 and Department Approval

Credit: 3 (1 lecture, 20 hours work experience)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

VCPG 2210 Beginning Vocal Pedagogy

Prerequisite: MUAP 1281

Credit: 2 (2 lecture)

Technical, theoretical and aural instructional strategies for applications to the beginning vocal student. Includes 'how to' set up the business of a teaching studio. Surveys beginning vocal methods books, repertoire, and professional affiliations.

VCPG 2211 Intermediate Vocal Pedagogy

Prerequisite: VCPG 2210

Credit: 2 (2 lecture)

Technical, theoretical, and aural instructional strategies for application to the intermediate vocal student. Surveys publications and reference materials germane to the teaching area. Includes major periods of vocal music with emphasis on style, diction, and performance.

Course Descriptions

VHPA 1441 Auto Parts Counter Sales

Credit: 4 (4 lecture)

Skill development in communications, sales, and merchandising of auto parts to vehicle owners and repair technicians with an emphasis on customer relations, communication, sales, and merchandising skills.

VIET 1411 Beginning Vietnamese I

Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Introduction to Vietnamese language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

VIET 1412 Beginning Vietnamese II

Prerequisites: VIET 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school Vietnamese within the last two years. Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

Credit: 4 (3 lecture, 2 lab)

Continuation of Vietnamese 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

VIET 2311 Intermediate Vietnamese I

Prerequisite: VIET 1412 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.
Credit: 3 (3 lecture)

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Vietnamese. Presentation of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in Vietnamese. Core Curriculum Course.

VIET 2312 Intermediate Vietnamese II

Prerequisite: VIET 2311 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.Credit: 3 (3 lecture)

Continuation of VIET 2311. Special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in Vietnamese. Core Curriculum Course.

VNSG 1122 Vocational Nursing Concepts

Prerequisite: Admission to program

Credit: 1 (1 lecture)

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.

VNSG 1161 Clinical - Licensed Vocational Nurse (LVN) Training

Prerequisite: Admission to program

Corequisite: VNSG 1423

Credit: 1 (6 lab)

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.

VNSG 1162 Clinical - Licensed Vocational Nurse (LVN) Training

Prerequisite: VNSG 1161

Corequisite: VNSG 1330

Credit: 1 (4 lab)

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.

VNSG 1163 Clinical - Licensed Vocational Nurse (LVN) Training

Prerequisite: VNSG 1162

Corequisite: VNSG 1334

Credit: 1 (4 lab)

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.

VNSG 1216 Nutrition

Prerequisite: Admission to program

Credit: 2 (2 lecture)

Introduction to nutrients and the role of diet therapy in growth and development and in the maintenance of health.

VNSG 1219 Leadership and Professional Development

Prerequisite: VNSG 1122

Credit: 2 (2 lecture)

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.

VNSG 1227 Essentials of Medication Administration

Prerequisite: Admission to program

Credit: 2 (2 lecture, 1 lab)

General principles of medication administration including determination of dosage, preparation, safe administration, and documentation of multiple forms of drugs. Instruction includes various systems of measurement.

VNSG 1238 Mental Illness

Prerequisite: VNSG 1400

Credit: 2 (2 lecture)

Study of human behavior with emphasis on emotional and mental abnormalities and modes of treatment incorporating the nursing process.

VNSG 1266 Practicum - Licensed Vocational Nurse (LVN) Training

Prerequisite: VNSG 1161

Corequisite: VNSG 1409 and VNSG 2331

Credit: 2 (15 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

VNSG 1267 Practicum - Licensed Vocational Nurse (LVN) Training

Prerequisite: VNSG 1266

Corequisite: VNSG 1410

Credit: 2 (16 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

VNSG 1320 Anatomy and Physiology for Allied Health

Prerequisite: Admission to program

Credit: 3 (3 lecture)

Introduction to the normal structure and function of the body including an understanding of the relationship of body systems in maintaining homeostasis.

VNSG 1330 Maternal- Neonatal Nursing

Prerequisite: VNSG 1400

Corequisite: VNSG 1162

Credit: 3 (3 lecture)

Utilization of the nursing process in the assessment and management of the childbearing family. Emphasis on the bio-psycho-socio-cultural needs of the family during the phases of pregnancy, childbirth, and the neonatal period including abnormal conditions.

VNSG 1334 Pediatrics

Corequisite: VNSG 1163

Credit: 3 (3 lecture)

Study of childhood diseases and childcare from infancy through adolescence. Focus on the care of the well and the ill child utilizing the nursing process.

VNSG 1400 Nursing in Health and Illness I

Credit: 4 (4 lecture)

Prerequisite: Admission to program

Introduction to general principles of growth and development, primary health care needs of the client across the life span, and therapeutic nursing interventions.

VNSG 1409 Nursing in Health and Illness II

Prerequisite: VNSG 1400

Corequisite: VNSG 1266

Credit: 4 (4 lecture)

Introduction to common health problems requiring medical and surgical interventions.

VNSG 1410 Nursing in Health and Illness III

Prerequisite: VNSG 1409

Corequisite: VNSG 1267

Credit: 4 (4 lecture)

Continuation of Nursing in Health and Illness II. Further study of common medical-surgical health problems of the client including concepts of mental illness. Incorporates knowledge necessary to make the transition from student to graduate vocational nurse.

VNSG 1423 Basic Nursing Skills

Prerequisite: Admission to program

Corequisite: VNSG 1161

Credit: 4 (3 lecture, 4 lab)

Mastery of entry level nursing skills and competencies for a variety of health care settings. Utilization of the nursing process as the foundation for all nursing interventions.

VNSG 2331 Advanced Nursing Skills

Corequisite: VNSG 1266

Credit: 4 (2 lecture, 4 lab)

Mastery of advanced level nursing skills and competencies in a variety of health care settings utilizing the nursing process as a problem-solving tool.

VTHT 1166 Practicum (or Field Experience) - Veterinary/Animal Health Technology/Technician and Veterinary Assistant

Prerequisite: Department Approval

Credit: 1 (7 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student

VTHT 1229 Large Zoo and Wild Mammals

Credit: 2 (1 lecture, 4 lab)

Care and management of large zoo and wild mammals commonly encountered in zoological parks, wildlife ranches, and aquariums.

VTHT 1233 Small Zoo and Wild Mammals

Credit: 2 (1 lecture, 4 lab)

Care and management of small zoo and wild mammals commonly encountered in zoological parks, wildlife ranches, and aquariums.

VTHT 1266 Practicum (or Field Experience) - Veterinary/Animal Health Technology/Technician and Veterinary Assistant

Prerequisite: Department Approval

Credit: 2 (14 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

VTHT 1341 Anesthesia and Surgical Assistance

Credit: 3 (1 lecture, 6 lab)

In-depth application of surgical, obstetrical, and anesthesia techniques including identification and use of instruments and equipment.

VTHT 1345 Veterinary Radiology

Credit: 3 (2 lecture, 4 lab)

Presentation of theory and principles and practical application of radiology within the field of veterinary medicine.

VTHT 1349 Veterinary Pharmacology

Credit: 3 (2 lecture, 2 lab)

Fundamentals of pharmacology including recognition, calculation, labeling, packaging, and administration of common veterinary drugs, biologics, and therapeutic agents. Discussion of normal and abnormal responses to these agents.

VTHT 1366 Practicum (or Field Experience) - Veterinary/Animal Health Technology/Technician and Veterinary Assistant

Prerequisite: Department Approval

Credit: 3 (21 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

VTHT 1371 Shelter Management

Credit: 3 (1 lecture, 6 lab)

This course covers nutrition, sanitation, commonly encountered shelter diseases as well as breed identification and animal shelter management.

VTHT 1413 Veterinary Anatomy and Physiology

Credit: 4 (3 lecture, 4 lab)

Gross anatomy of domestic animals including physiological explanations of how each organ functions.

VTHT 2201 Canine and Feline Clinical Management

Credit: 2 (1 lecture, 4 lab)

Survey of feeding, common management practices, and care of canines and felines in a clinical setting. Review of common diseases of canines and felines encountered in the practice of veterinary medicine.

VTHT 2205 Equine Clinical Management

Credit: 2 (1 lecture, 4 lab)

Survey of feeding, common management practices, and care of equines in a clinical setting. Review of common diseases of equines encountered in the practice of veterinary medicine.

VTHT 2217 Exotic Animal Clinical Management

Credit: 2 (2 lecture)

Survey of feeding, common management practices, and care of exotic animals in a clinical or zoological setting. Review of common diseases of exotic animals encountered in the practice of veterinary medicine.

VTHT 2323 Veterinary Clinical Pathology I

Credit: 3 (2 lecture, 4 lab)

In-depth study of hematology and related chemistries with emphasis on lab procedures. Additionally the study of parasites.

VTHT 2331 Veterinary Clinical Pathology II

Credit: 3 (2 lecture, 4 lab)

In-depth study of urinalysis and cytology. Survey of microbiological techniques. Exotic animal values will be studied. Emphasis on laboratory procedures.

WDWK 1313 Cabinet Making

Prerequisite: CRPT 1329

Credit: 3 (2 lecture, 3 lab)

Includes design and construction of base cabinets and wall cabinets for kitchens and bathrooms. Emphasis on safe use of portable and stationary power tools. Finishing techniques include proper sanding, sealing, staining, and finishing.

WDWK 2451 Cabinet Making II

Prerequisite/Corequisite: WDWK 1313

Credit: 4 (2 lecture, 4 lab)

Advanced skills in machine woodworking and hand craftsmanship. Emphasizes advanced design, door and drawer construction, and laminate laying.

Course Descriptions

WLDG 1305 Art Metals

Credit: 3 (2 lecture, 2 lab)

Fundamentals of conceptualizing and producing utilitarian items on ferrous and non-ferrous metals. Skill development through the techniques of sinking, raising, repousse, and piercing to create objects from flat sheet. Topics include brazing, soldering, tinning, polishing, and tool making.

WLDG 1391 Special Topics in Welder/ Welding Technologist

Credit: 3 (2 lecture, 2 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

WLDG 1407 Introduction to Welding Using Multiple Processes

Prerequisite: Department Approval

Credit: 4 (2 lecture, 4 lab)

Basic welding processes. Includes oxy-fuel welding (OFW) and cutting, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), and gas tungsten arc welding (GTAW).

WLDG 1413 Introduction to Blueprint Reading for Welders

Corequisite: WLDG 1428

Credit: 4 (2 lecture, 6 lab)

A study of industrial blueprints. Emphasis placed on terminology, symbols, graphic description, and welding processes, including systems of measurement and industry standards. Interpretation of plans and drawings used by industry.

WLDG 1417 Introduction to Layout and Fabrication

Prerequisite: WLDG 1421 or WLDG 1413

Credit: 4 (2 lecture, 6 lab)

A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction.

WLDG 1421 Introduction to Welding Fundamentals

Credit: 4 (2 lecture, 6 lab)

An introduction to the fundamentals of equipment used in oxy-fuel and arc welding, including welding and cutting safety, basic oxy-fuel welding and cutting, basic arc welding processes and basic metallurgy.

WLDG 1425 Introduction to Oxy-Fuel Welding and Cutting

Corequisite: WLDG 1421

Credit: 4 (2 lecture, 6 lab)

An introduction to oxy-fuel welding and cutting, safety, setup and maintenance of oxy-fuel welding, and cutting equipment and supplies.

WLDG 1428 Introduction to Shielded Metal Arc Welding (SMAW)

Corequisite: WLDG 1421 or WLDG 1425

Credit: 4 (2 lecture, 6 lab)

An introduction to shielded metal arc welding process. Emphasis on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction provided in SMAW fillet welds in various positions.

WLDG 1430 Introduction to Gas Metal Arc Mig Welding

Prerequisite: WLDG 2443

Credit: 4 (2 lecture, 6 lab)

A study of the principles of gas metal arc welding, setup and use of GMAW equipment, and safe use of tools/equipment. Instructions on various joint designs.

WLDG 1434 Introduction to Gas-Tungsten Arc Tig Welding

Prerequisite: WLDG 2353

Credit: 4 (2 lecture, 6 lab)

An introduction to the principles of gas tungsten arc welding (GTAW), setup/use of GTAW equipment, and safe use of tools and equipment. Welding instruction in various positions on joint designs.

WLDG 1435 Introduction to pipe welding

Credit: 4 (2 lecture, 6 lab)

Introduction to the welding of pipe using the shielded-metal arc welding process, including electrodes selection, equipment setup, and safe shop practices. Emphasis on weld position 1G and 2G using various electrodes.

WLDG 1457 Intermediate Shielded-Metal Arc Welding

Prerequisite: WLDG 1428

Credit: 4 (2 lecture, 6 lab)

A study of the production of various fillets and groove welds. Preparation of specimens for testing in all test positions.

WLDG 2350 Orbital Tube Welding

Credit: 3 (2 lecture, 2 lab)

An overview of welding in the semi-conductor and related industries. Special emphasis on the disciplines of orbital tube welding, including cutting, facing, and development of weld procedures.

WLDG 2443 Advanced Shielded-Metal Arc Welding

Prerequisite: WLDG 1457

Credit: 4 (2 lecture, 6 lab)

Advanced topics based on accepted welding codes. Training provided with various electrodes in shielded-metal arc welding processes with open v-groove joint in all positions.

WLDG 2447 Advanced Gas Metal Arc Welding (GMAW)

Prerequisite: WLDG 1430

Credit: 4 (2 lecture, 6 lab)

Advanced topics in GMAW welding, including welding in various positions and directions.

WLDG 2451 Advanced Gas Tungsten Arc Welding (GTAW)

Prerequisite: WLDG 1434

Credit: 4 (2 lecture, 6 lab)

Advanced topics in GTAW welding, including welding in various positions and directions.

WLDG 2453 Advanced Pipe Welding

Prerequisite: WLDG 1434

Credit: 4 (2 lecture, 6 lab)

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.