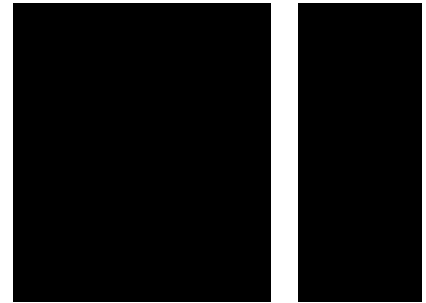


San Jacinto College Course Descriptions...



Listed on pages 180 through 263 are the course descriptions for classes available at San Jacinto College. The descriptions assist students in choosing courses which best fit their degree plans or transfer requirements.

On these pages you will find information on courses including the course name, number, a brief description and any prerequisites.

A rubric, or alphabetic prefix, accompanies the descriptions so the subject area of the course, or department through which the course is offered, can be designated.

Index to Subjects

- Accounting (ACCT, ACNT)
 Aeronautical Technology (AIRP, AVIM)
 Air Conditioning Technology (HART)
 Anthropology (ANTH)
 Applied Computer Electronics Technology (CETT, CPMT, CSIR, EECT, ELMT)
 Art (ARTC, ARTS)
 Art and Visual Communication (ARTC, ARTS, ARTV, GRPH, IMED, ITSW)
 Astronomy (PHYS)
 Audio Engineering-(See Music)
 Automotive Collision Repair Technology (ABDR)
 Automotive Technology (AUMT)
 Bible (BIBL)
 Biology (BIOL)
 Biotechnology (BITC)
 Business (BCIS, BUSG, BUSI)
 Business Management (BMGT, BUSI, HRPO, MRKG)
 (See International Business and Trade)
 Business Office Technology (POFI, POFL, POFT)
 Chemistry (CHEM)
 Child Development and Family Studies (CDEC, FMLD, TECA)
 Commercial Art (See Art & Visual Communication)
 Communications (COMM)
 Computer Information Systems (EDTC, IMED, INEW, ITCC, ITMC, ITNW, ITSC, ITSE, ITSW, ITSYS)
 Computer Science (COSC)
 Cosmetology (CSME)
 Criminal Justice (CJCR, CJLE, CJSA, CRIJ)
 Culinary Arts (CHEF, CULA, IFWA, PSTR, RSTO)
 Dance (DANC)
 Developmental Studies (DEVS)
 Diesel Technology (DEMTR)
- Dietetics (DITA, FDNS, HECO, IFWA)
 Drafting Technology (See Engineering Design Graphics)
 Drama (DRAM)
 Economics (ECON)
 Education (EDUC)
 Electrical Technology (ELPT, IEIR)
 Electronics Instrumentation (INTC)
 Emergency Medical Technology (EMSP)
 Engineering (ENGR)
 Engineering Design Graphics (DFTG)
 English (ENGL)
 English for Speakers of Other Languages (ESOL)
 Environmental Technology (EPCT)
 Fire Protection Technology (FIRS, FIRT)
 Foreign Languages (FREN, GERM, SPAN)
 Geography (CRTG, GEOG)
 Geomatic Surveying Technology (SRVY)
 Geology (GEOL)
 Gerontology Services (GERS)
 Government (GOVT)
 Health Information Management (HITT, HPRS)
 History (HIST)
 Inspection Technology (See Non-Destructive Testing Technology)
 Instrumentation Technology (INTC, RBTC)
 Interior Design (INDS)
 International Business and Trade (IBUS)
 Journalism (See Communications)
 Language Skills (LANG)
 Legal Assistant (See Paralegal)
 Management Development (See Business Management)
 Mathematics (MATH)
 Medical Assisting (MDCA, HITT, HPRS)
 Medical Imaging Technology (CTMT, MRIT, RADR)
 Medical Laboratory Technology (HPRS, MLAB, PLAB, SCIT)
- Mental Health Services (CMSW, DAAC, SCWK, SOCW, PMHS, PSYT)
 Military Science (MSCI)
 Music (MUSB, MUSC, MUSI, MUAP, MUEN)
 Non-Destructive Testing Technology (METL, NDTE, QCTC, WLDG)
 Nursing (RNSG, VNSG)
 Nursing Home Administration (BMGT, LTCA)
 Occupational Health and Safety Technology (EPCT, OSHT)
 Paralegal (LGLA)
 Pharmacy Technician (PHRA)
 Philosophy (PHIL)
 Physical Education/Health Education (PHED)
 Physical Therapist Assistant (PTHA)
 Physics (PHYS)
 Pipefitting (PFPB)
 Plumbing (PFPB)
 Prepress/Dekstop Publishing & Digital Imaging Design (GRPH)
 Process Technology (CTEC, PTAC, PTRT, SCIT)
 Psychology (PSYC)
 Public Service Administration (PBAD)
 Reading (READ)
 Real Estate (RELE)
 Respiratory Care (RSPT)
 Restaurant Management (See Culinary Arts)
 Sheet Metal (MCHN)
 Sociology (SOCI)
 Speech (SPCH)
 Study Skills (See Developmental Studies)
 Surgical Technology (HPRS, SRGT, VNSG)
 Truck Driving (Commercial) (CVOP)
 Vision Care Technology (HPRS, OPTS, POFM, SRGT)
 Visual Communication (See Art and Visual Communication)
 Welding Technology (MCHN, WLDG)

An alphabetic prefix, called the rubric, usually containing four characters, is used to designate the subject area of the course or department through which the course is offered.

Each course is given a four-character numeric code, called the course number. The first digit denotes the academic level or year in which college-level courses are usually taken. The number "1" indicates freshman or first-year courses; the number "2" indicates sophomore or second-year courses. When the first number is "0" the course is developmental level. The second digit represents the semester credit hour (SCH) value of the course. The third and fourth digits are for departmental sequencing and make the course number unique within the subject area of the department. Consecutive numbers are not always used; however, in general, higher numbers are used for the more advanced courses while lower numbers are used for less advanced courses.

Numbers in parentheses at the end of each course description indicate the following: first digit, semester credit hour; second digit, lecture hours per week; third digit, laboratory hours per week. A capital letter A indicates Tech-Prep articulation.

Index of Course Rubrics

<i>Abbr</i>	<i>Program</i>	<i>Abbr</i>	<i>Program</i>	<i>Abbr</i>	<i>Program</i>
ABDR	Automotive Collision Repair Technology	COSC	Computer Science	EPCT	Occupational Health and Safety Technology
ACCT	Accounting	CPMT	Applied Computer Electronics Technology	EPCT	Fire Protection Technology
ACNT	Accounting	CRIJ	Criminal Justice	ESOL	English for Speakers of Other Languages
AERO	Aerospace Technology	CRTG	Cartography	FDNS	Dietetics
AIRC	Air Conditioning Technology	CSIR	Applied Computer Electronics Technology	FIRS	Fire Protection Technology
AIRP	Aeronautical Tech (Aircraft Pilot)	CSME	Cosmetology	FIRT	Fire Protection Technology
ANTH	Anthropology	CTEC	Process Technology (Chemical Technology)	FMLD	Child Development and Family Studies
ARTC	Visual Communication	CTMT	Medical Imaging	FREN	French
ARTS	Art/Visual Communication	CULA	Culinary Arts	GEOG	Geography
AUMT	Automotive Technology	CVOP	Truck Driving (Commercial)	GEOL	Geology
AVIM	Aeronautical Tech (Aviation Management)	DAAC	Mental Health Services	GERM	German
BCIS	Business (Computer Information Systems)	DANC	Dance	GERS	Gerontology Services
BIBL	Bible	DEMR	Diesel Technology	GOVT	Government
BIOL	Biology	DEVS	Developmental Studies	GRPH	Prepress/Desktop Publishing and Digital Imaging Design
BITC	Biotechnology	DFTG	Engineering Design Graphics	HART	Air Conditioning Technology
BMGT	Business	DITA	Dietetics	HECO	Dietetics
BMGT	Business Development	DRAM	Drama	HIST	History
BMGT	Nursing Home Administration	ECON	Economics	HITT	Health Information Technology Technician
BUSG	Business	EDTC	Computer Information Systems	HRPO	Business Management
BUSI	Business	EDUC	Education	HPRS	Health Information Management
CDEC	Child Development and Family Studies	EECT	Applied Computer Electronics Technology	HPRS	Health Professions and Related Sciences
CETT	Applied Computer Electronics Technology	ELMT	Applied Computer Electronics Technology	HPRS	Medical Lab Technology
CHEF	Culinary Arts	ELPT	Electrical Technology	HPRS	Surgical Technology
CHEM	Chemistry	EMMT	Emergency Medical Technology	HPRS	Vision Care
CJCR	Criminal Justice	EMSP	Emergency Medical Technology	IBUS	International Business
CJLE	Criminal Justice Law Enforcement	ENGL	English	IEIR	Electrical Technology
CJSA	Criminal Justice	ENGR	Engineering	IFWA	Culinary Arts
CMSW	Mental Health Services	EPCT	Environmental Technology Abbreviation Program	IMED	Computer Information Systems
COMM	Journalism/Communications				

<i>Abbr</i>	<i>Program</i>	<i>Abbr</i>	<i>Program</i>	<i>Abbr</i>	<i>Program</i>
IMED	Visual Communication	MUAP	Applied Music	PTHA	Physical Therapist Assistant
INDS	Interior Design	MUSB	Music Business	PTRT	Process Technology
INTC	Electronics Instrumentation	MUSC	Audio Engineering	QCTC	Non-Destructive Testing Technology
INTC	Instrumentation Technology	MUSI	Music	QCTC	Welding Technology
ITCC	Computer Information Systems	MUEN	Musical Organizations	RADR	Medical Imaging
ITMC	Computer Information Systems	NDTE	Non-Destructive Testing Technology	RADT	Medical Imaging
ITNW	Computer Information Systems	OPTS	Optical Science/Vision Care	RBTC	Instrumentation Technology
ITSC	Computer Information Systems	OSHT	Occupational Health and Safety Technology	READ	Reading
ITSE	Computer Information Systems	PBAD	Public Service Administration	RELE	Real Estate
ITSW	Visual Communication	PFFB	Pipefitting	RNSG	Nursing (RN)
ITSW	Computer Information Systems	PFPB	Plumbing	RSPT	Respiratory Care
ITSY	Computer Information Systems	PHED	Physical Education/Health Education	RSTO	Culinary Arts
LANG	Language Skills	PHIL	Philosophy	RSTO	Restaurant Management
LGLA	Paralegal	PHRA	Pharmacy Technician	SCIT	Medical Laboratory Technology
LTCA	Nursing Home Administration	PHYS	Astronomy	SCIT	Process Technology
MATH	Mathematics	PHYS	Physics	SCWK	Mental Health Services
MDCA	Medical Assisting	PLAB	Medical Laboratory Technology	SOCI	Sociology
MCHN	Welding Technology (CE)	PMHS	Mental Health Services	SOCW	Mental Health Services
MDDT	Dietetics	POFI	Professional Office Information	SPAN	Spanish
METL	Non-Destructive Testing Technology	POFL	Professional Office Legal	SPCH	Speech
MGMT	Business Management	POFM	Professional Office Medical	SRGT	Surgical Technology
MLAB	Medical Laboratory Technology	POFM	Vision Care	SRGT	Vision Care Technology
MRIT	Magnetic Resonance Imaging Technology	POFT	Professional Office Technology	SRVY	Geomatic Surveying Technology
MRKG	Marketing	PSTR	Restaurant Management/Culinary Arts	TECA	Child Development and Family Studies
MRMT	Medical Records Medical Technology	PSYC	Psychology	VNSG	Surgical Technology
MSCI	Military Science	PSYT	Mental Health Services	VNSG	Licensed Vocational Nursing
		PTAC	Process Technology	WLDG	Welding Technology
				WLDG	Non-Destructive Testing Technology

Accounting

ACCT 2301 Accounting Principles I (5203015104)

(Formerly Accounting 2311)

A study of the fundamentals of financial accounting. Includes accounting procedures, concepts and theory for proprietorships, partnerships, and corporations. Emphasizes the accounting cycle for service and merchandising enterprises. Prerequisite: Reading Level 7. (3:3-1.5)

ACCT 2302 Accounting Principles II (5203015104)

(Formerly Accounting 2312)

A study of the fundamentals of managerial accounting. Emphasizes accounting for a manufacturing concern. Includes budgeting, planning, and management decision-making. Prerequisite: ACCT 2301. (3:3-1.5)

ACNT 1303 Introduction to Accounting I (520301)

(Formerly Elementary Accounting 131, ACCT 1301, ACCT 1371)

A study of analyzing, classifying, and recording business transactions in a manual and computerized environment. Emphasis on understanding the complete accounting cycle and preparing financial statements, bank reconciliation, and payroll (ACNT 1303 may not count for degree or certificate purposes if the student receives credit for ACCT 2301.) ACNT 1303 and 1304 will not satisfy the Business Administration transfer program degree accounting requirements. (3:3-0)

ACNT 1304 Introduction to Accounting II (520301)

(Formerly Elementary Accounting 132, ACCT 1302, ACCT 1372)

A study of accounting for merchandising, notes payable, notes receivable, valuation of receivables and equipment, and valuation of inventories in a manual and computerized environment. Prerequisite: ACNT 1303. (ACNT 1304 may not count for degree or certificate purposes if the student receives credit for ACCT 2301.) ACNT 1303 and 1304 will not satisfy the Business Administration transfer program degree accounting requirements. (3:3-0)

ACNT 1311 Introduction to Computerized Accounting (520302)

(Formerly ACCT 2319, ACCT 2379)

Introduction to utilizing the computer in maintaining accounting records, making management decisions, and processing common business applications, with primary emphasis on a general ledger package and

spreadsheet applications. Typical areas covered include the general ledger, accounts payable, accounts receivable and payroll. Prerequisite: ACCT 2301 or ACNT 1303 and 1304 or instructor approval. (3:3-0)

ACNT 1329 Payroll and Business Tax Accounting (521601)

(Formerly ACCT 2320, ACCT 2377)

A study of payroll procedures, taxing entities, and reporting requirements of local, state and federal taxing authorities in a manual and computerized environment. Prerequisite: Reading Level 4. (3:3-0)

ACNT 1331 Federal Income Tax: Individual (521601)

(Formerly ACCT 2318, ACCT 2378)

Basic instruction in the tax laws as currently implemented by the Internal Revenue Service, providing a working knowledge of preparing taxes for the individual and sole proprietorship. Prerequisite: Reading Level 4. (3:3-0)

ACNT 2303 Intermediate Accounting I (520301)

(Formerly Accounting 233, ACCT 2313, ACCT 2373)

Critical analysis of generally accepted accounting principles, concepts, and theory underlying the preparation of financial statements. Emphasis on current theory and practice. Prerequisite: ACCT 2301. (3:3-0)

ACNT 2304 Intermediate Accounting II (520301)

(Formerly Accounting 234, ACCT 2314, ACCT 2374)

Continued in-depth analysis of generally accepted accounting principles underlying the preparation of financial statements, including comparative analysis and statement of cash flow. Prerequisite: ACCT 2301. (3:3-0)

ACNT 2309 Cost Accounting (520301)

(Formerly ACCT 2316, ACCT 2376)

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. Prerequisite: ACCT 2302 or equivalent. (3:3-0)

ACNT 2366 Practicum-Accounting (520301)

(Formerly ACCT 2375)

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, but no more than three times for credit. Prerequisite: ACCT 2301 and 2302 or approval of department chair. (3:0-21)

Aeronautical Technology

AIRP 1215 Private Flight (Private Pilot) (490102)

(Formerly AVIA 1381, Flight 131, AVIA 1281, AVIA 1181)

Flight training to prepare the student for the completion of the Federal Aviation Administration private pilot certificate, including dual and solo flight in the areas of maneuvers and cross-country navigation. Prerequisite: Reading Level 6. Prerequisite or Co-Requisite: Federal Aviation Regulation Part 141 Ground School Training and Aeronautical Department chair approval. (AIRP 1301, AIRP 1307, and AIRP 1311). (2:1-3)

AIRP 1255 Intermediate Flight (Commercial Pilot) (490102)

(Formerly AVIA 1382, Flight 232, AVIA 1282)

Provides students with flight hours and skills necessary to fulfill solo cross-country hours required for the Federal Aviation Administration Commercial Pilot, single-engine land, airplane certificate. Prerequisite: AIRP 1215 or a valid Private Pilot Certificate. Reading Level 6. Prerequisite or Co-Requisite: AIRP 2250 and Aviation Department chair approval. (2:1-2)

AIRP 1301 Air Navigation (490102)

(Formerly Aeronautical Technology 130, AVIA 1310, AVIA 1410)

Instruction in Visual Flight rules navigation in the National Airspace System. Topics include sectional charts, flight computers, plotters, and navigation logs and publications. Qualifies as part of a program leading to Federal Aviation Administration certification. One of three Private Pilot Ground School courses. (3:3-0)

AIRP 1307 Aviation Meteorology (490102)

(Formerly Aeronautical Technology 134, AVIA 1314)

In-depth coverage of meteorological phenomena affecting aircraft flight. Topics include basic concepts of aviation meteorology in the study of temperature, pressure, moisture, stability, clouds, air masses, fronts, thunderstorms, icing, and fog. Also includes analysis and use of weather data

for flight planning. Qualifies as part of a program leading to Federal Aviation Administration Certification. One of three Private Pilot Ground school courses. (3:3-0)

AIRP 1311 Flight Theory (490102)

(Formerly Aeronautical Technology 136, AVIA 1316)

Instruction in basic flight information needed for flight in the National Aerospace System. Topics include publications, regulations, aircraft systems, and performance. Qualifies as part of a program leading to Federal Aviation Administration certification. One of three Private Pilot Ground School courses. (3:3-0)

AIRP 1341 Advanced Air Navigation (490102)

(Formerly AVIA 1320)

Skill development in advanced airplane systems and performance, including radio navigation and cross-country flight planning. Includes an introduction to instrument flight operations and navigation. This course may be used as part of a program leading to Federal Aviation Administration certification. Prerequisite: AIRP 1301, or a Private Pilot Certificate. (3:3-0)

AIRP 1343 Aerodynamics (490102)

(Formerly Aeronautical Technology 236, AVIA 2316)

Study of the general principles of the physical laws of flight. Topics include physical terms; and the four forces of flight: lift, weight, thrust, and drag. Aircraft design; stability control; and high-speed flight characteristics are also included. Prerequisite: Math Level 7. (3:3-0)

AIRP 1345 Aviation Safety (490102)

(Formerly AVIA 2317)

A study of the fundamentals essential to the safety of flight. A survey of the aviation industry including decision-making factors, accident reporting, accident investigation, air traffic systems, and aircraft technologies. (3:3-0)

AIRP 1347 Human Factors in Aviation (490102)

(Formerly Aeronautical Technology 137, AVIA 1317)

Instruction in flight physiology, the decision-making process, pilot health maintenance, psychological aspects of flight, human behavior as related to the aircraft flight deck, and aeromedical information of significance to flight crews. (3:3-0)

AIRP 1451 Instrument Ground School (490102)

(Formerly AVIA 2314, AIRP 1351)

A study of basic instrument radio and navigation fundamentals used in instrument flight. Topics include a description and practical use of navigation systems and instruments, charts used for instrument flight, and Federal Aviation Administration regulations. Qualifies as part of a program leading to Federal Aviation Administration certification. Prerequisites: AIRP 1301, AIRP 1307, and AIRP 1311, or Private Pilot Certificate and Aeronautical department chair approval. Prerequisite or Co-Requisite: AIRP 1341. (4:4-0)

AIRP 2239 Commercial Flight (Commercial Pilot) (490102)

(Formerly AVIA 2383, Flight 233, AVIA 2183)

Flight instruction necessary to qualify for the Federal Aviation Administration Commercial Pilot Certificate. Instruction includes both dual and solo flight training to prepare the student for mastery of all commercial pilot maneuvers. Prerequisites: AIRP 1215, AIRP 1255, and AIRP 2250; or Private Pilot Certificate and Instrument Pilot Rating and Aeronautical Department chair approval. Reading Level 6. Prerequisite or Co-Requisite: FAR Part 141 ground school training. (AIRP 2337). (2:1-3)

AIRP 2242 Flight Instructor-Instrument Airplane (490108)

(Formerly AVIA 2385, Flight 322, AVIA 2185)

Skill development for flight instructors necessary to qualify for the Federal Aviation Administration Certified Flight Instructor Instrument Rating, airplane single-engine land. Prerequisites: Flight Instructor and Instrument Pilot Certificates and Aeronautical Department chair approval. Reading Level 6. (2:2-0)

AIRP 2243 Flight Instructor-Multiengine Airplane (490108)

(Formerly AVIA 2288)

Flight instruction necessary to qualify for the Federal Aviation Administration Flight Instructor-Multiengine Airplane Rating. Includes combined ground and flight instruction and analysis of flight maneuvers. Prerequisites: Private, Commercial, Instrument, Multi-Engine and Flight Instructor Certificates and Aeronautical Department approval. Reading Level 6. (2:1-2)

AIRP 2250 Instrument Flight (490102)

(Formerly AVIA 2384, Flight 234, AVIA 2184)

Preparation for completion of the Federal Aviation Administration Instrument Pilot Rating with mastery of all instrument flight procedures. Prerequisite: AIRP 1215 or a

valid Private Pilot Certificate and Aeronautical Department chair approval. Reading Level 6. Prerequisite or Co-Requisite: FAR Part 141 ground school training (AIRP 1451)(2:1-3)

AIRP 2251 Multiengine Flight (490102)

(Formerly Multi-Engine Flight II, AVIA 2187)

Preparation for the multiengine class rating, which will be added to a current pilot certificate. Includes explanation and demonstration of all required Federal Aviation Administration normal and emergency operations and procedures. Prerequisite: AIRP 1215, AIRP 1255, AIRP 2239, and AIRP 2250 or Private or Commercial Pilot Certificate and Instrument Pilot Rating and Aeronautical Department chair approval. Reading Level 6 (2:2-0)

AIRP 2331 Advanced Meteorology (490102)

(Formerly AVIA 2315)

Preparation for advanced aviation students to apply knowledge of varying meteorological factors, including weather hazards to flight; techniques for minimizing weather hazards and aviation weather services. Prerequisite: AIRP 1307 (3:3-0)

AIRP 2333 Aircraft Systems (490102)

(Formerly AVIA 2324)

Study of the general principles, operation, and application of pneumatic, hydraulic, electrical, fuel, environmental, protection, and warning systems. Emphasis on types of aircraft structures and their control systems. (3:3-0)

AIRP 2336 Certified Flight Instructor-Airplane (490108)

(Formerly Flight 341, AVIA 2386)

Flight instruction necessary to qualify for the Federal Aviation Administration Certified Flight Instructor-Airplane Certificate. Topics include ground and flight instruction. Prerequisite: Commercial Pilot Certificate and Instrument Pilot Rating and Aeronautical Department chair approval. Reading Level 6. (3:2-3)

AIRP 2337 Commercial Ground School (490102)

(Formerly Aeronautical Technology 232, AVIA 2312)

A study of advanced aviation topics that can be used for Federal Aviation Administration certification at the commercial pilot level. Includes preparation for the Federal Aviation Administration Commercial Airplane written test. Prerequisites: AIRP 1301, AIRP 1307, and AIRP 1311; or a Private Pilot Certificate (3:3-0)

AIRP 2352 Practical Dispatching I (490102)
(Formerly Flight Engineer Preparation, AVIA 2325)

Study of advanced concepts in weight and balance, performance calculations, avionics, and engine and airplane specifications, including Federal Aviation regulations. Preparation for the Federal Aviation Administration Aircraft Dispatcher written examination. (3:3-0)

AIRP 2353 Practical Dispatching II (490102)
(Formerly AVIA 2326)

A study of the duties and responsibilities required of an aircraft dispatcher. Topics include instruction in Federal Aviation Administration regulations, flight planning, and company operations for both domestic and international operations. Preparation for the Federal Aviation Administration Practical Examination. Student must be at least 22-1/2 years old to enroll in this course. Prerequisite or Co-Requisite: AIRP 2352. (3:3-1)

AIRP 2355 Propulsion Systems (490102)
(Formerly Aeronautical Technology 233, AVIA 2313)

In-depth coverage of aircraft engine theory and principles of operation of various types of aircraft engines, including reciprocating, turboprop, turbojet, and turbo fan. Topics include propellers, superchargers, engine accessories, controls and instrumentation. (3:3-0)

AIRP 2357 Turbine Aircraft Systems Ground School (490102)
(Formerly AVIA 2327)

Instruction in the systems of specific turbine aircraft. Emphasis on the "glass-cockpit," auxiliary power, aircraft systems, and the first officer's operational role. Prerequisite: AIRP 2355. (3:3-0)

AVIM 1301 Introduction to Aviation Management (490104)
(Formerly Aviation 233, AVIA 2323)

An introduction to small aviation business management. Emphasis on financial marketing, human resources, and administrative and information systems essential for successful business operations. (3:3-0)

AVIM 2331 Airline Management (490104)
(Formerly Aviation 232, AVIA 2321)

An examination of the organization, operation, and management of airlines. Topics include financing, aircraft selection, route feasibility studies, load factors, and marketing. (3:3-0)

AVIM 2335 Airport Management (490104)

A study of the major functions of airport management, including facilities and services, organization, human resources, main-

tenance, planning and zoning, operations, revenues and expenses, public relations, ecology, and safety. (3:3-0)

AVIM 2337 Aviation Law (490104)

(Formerly Aviation 230, AVIA 2310)
A study of the historical development of aviation law, including in-depth coverage of constitutional, criminal, civil, common, and international law as it relates to aviation activities. (3:3-0)

AVIM 2339 Aviation Marketing (490104)

A study of the significance and functions of airline marketing including market research, sales, advertising and promotion, traffic demand analysis, and price determination theory. (3:3-0)

Air Conditioning Technology

HART 1401 Basic Electricity for HVAC

Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation. (4:3-3)

HART 1407 Refrigeration Principles (150501)

(Formerly AIRC 1401)
An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigeration handling, refrigeration compounds and safety. (4:3-3)

HART 1441 Residential Air Conditioning (150501)

(Formerly AIRC 1412)
A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair and charging of air conditioning systems. Prerequisite HART 1401 and HART 1407 or department chair approval. (4:3-3)

HART 1445 Gas Electrical Heating (150501)

(Formerly AIRC 1413)
Study of the procedures and principles used in servicing heating systems including gas fired furnaces and electric heating systems. Prerequisite or Co-Requisite: HART 1401 and HART 1407 or department chair approval. (4:3-3)

HART 2301 Air Conditioning and Refrigeration Codes (150501)

(Formerly AIRC 2310, HART 1371)
HVAC standards and concepts, with emphasis on the understanding, and documentation of the codes and regulations required for the state mechanical contractors license and local codes. Prerequisites: Hart 1441 or department chair approval. (3:3-0)

HART 2302 Commercial Air Conditioning System Design (150501)

Advanced study in essential elements of commercial air conditioning contracting including duct systems design and/or material takeoff; weight estimating; equipment selection using manufacturers catalog data; job cost estimating; scheduling preparation of shop drawings and submittals. Prerequisites: HART 2345 and HART 2441 or department chair approval. (3:3-0)

HART 2334 Advanced A/C Controls (150501)
(Formerly AIRC 2413, HART 2434)

Theory and application of electrical control devices, electromechanical controls, and/or pneumatic controls. Prerequisites: HART 2431 and HART 2441 or department chair approval. (3:3-0)

HART 2343 Industrial Air Conditioning (150501)

A study of components, accessories, applications, and installation of air conditioning systems above 25 ton capacity. Prerequisites: HART 2441 and HART 2431 or department chair approval. (3:3-0)

HART 2345 Residential A/C System Design (150501)

(Formerly AIRC 1301; HART 2545)
Study of the properties of air and results of cooling, heating, humidifying or dehumidifying; heat gain and heat loss calculations including equipment selection and balancing the air system. Prerequisites: HART 1441 and HART 1445 or department chair approval. (3:3-0)

HART 2368 Practicum-Heating, A/C and Refrigeration Technology/Technicians (150501)

(Formerly AIRC 2340)
Practical general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: Completion of 20 semester hours of air conditioning courses, an interview, and department chair approval are required prior to internship assignment. (3:0-21)

HART 2431 Advanced Electricity (150501)

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 applications of solid state devices. Prerequisite: HART 1441 and HART 1445 or department chair approval. (4:3-3)

HART 2436 Air Conditioning Troubleshooting (150501)

An advanced course in the application of troubleshooting principles and use of test instruments to diagnose air conditioning and refrigeration components and system problems, including conducting performance tests. Prerequisites: HART 1441 and HART 1445 or department chair approval. (4:3-3)

HART 2441 Commercial Air Conditioning (150501)

(Formerly AIRC 2401)
A study of components, applications, and installation of air conditioning systems with capacities of 25 tons or less. Prerequisite or Co-Requisite: HART 1441 and HART 2431 or department chair approval. (4:3-3)

HART 2442 Commercial Refrigeration (150501)

(Formerly AIRC 1414, HART 1442)
Theory and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines. Prerequisites or Co-requisites: HART 1401 and HART 1407 or department chair approval. (4:3-3)

HART 2449 Heat Pumps (150501)

(Formerly AIRC 2414, HART 1449)
A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow, and other topics related to heat pump systems. Prerequisites: HART 1401 and HART 1407 or department chair approval. (4:3-3)

Air Conditioning (HVAC) Certificate

Non-Credit Continuing Education Courses

HART 1007 Refrigeration Principles

(Continuing Education Course)
An introduction to the refrigeration cycle, basic thermodynamics, heat transfer, temperature/pressure relationship, safety, refrigeration containment, and refrigeration components.

HART 1041 Residential Air Conditioning

(Continuing Education Course)
A study of components, applications, and installation of mechanical air conditioning systems, including operating conditions, troubleshooting, repair, and charging of air conditioning systems.

HART 1045 Gas and Electric Heating

(Continuing Education Course)
A study of the procedures and principles used in servicing heating systems, including gas-fired and electric furnaces.

Anthropology

ANTH 2302 Introduction to Archaeology (4503015125)

The study of human prehistory which chronicles the major cultural developments in humanity's past and explores the unique methods archeologists use to retrieve, process, and analyze material culture. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

ANTH 2346 General Anthropology (4502015125)

Study of human beings, their antecedents and related primates, and their cultural behavior and institutions. Introduces the major subfields: physical and cultural anthropology, archaeology, linguistics, and ethnology. Prerequisites: Reading Level 6 and Writing Level 6. (3:3-0)

ANTH 2351 Cultural Anthropology (4502015325)

(Formerly Anthropology 2311)
A survey of cultures around the world in an attempt to explain the similarities and differences in human behavior through an examination of the theories and methods of anthropology, including social and political organization, ethnicity, language, and beliefs in the supernatural. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

Applied Computer Electronics Technology

CETT 1215 Digital Applications (151201)

An investigation of combinational and sequential logic elements and circuits with emphasis on design and troubleshooting of combinational and sequential circuits. (2:1-2)

CETT 1303 DC Circuits (151201)

(Formerly ELTE 1312)
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. (3:2-2)

CETT 1305 AC Circuits (151201)

(Formerly ELTE 1314)
A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers, and resonance. Prerequisite: CETT 1303 or department chair approval. (3:2-2)

CETT 1325 Digital Fundamentals (151201)

(Formerly ELTE 1313)
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. (3:2-2)

CETT 1329 Solid State Devices (151201)

(Formerly ELTE 1316)
A study of diodes and bipolar semiconductor devices, including analysis of static and dynamic characteristics, bipolar techniques, and thermal considerations of solid state devices. Prerequisite CETT 1303 or department chair approval. (3:2-2)

CETT 1345 Microprocessor (151201)

(Formerly ELTE 1317)
An introductory course in microprocessor software and hardware; with focus on architecture, timing sequence, operation, and programming; and discussion of appropriate software diagnostic language and tools. Prerequisite CETT 1325 or department chair approval. (3:2-2)

CETT 1349 Digital Systems (151201)

(Formerly ELTE 1315)
A course in electronics covering digital systems. Emphasis on application and troubleshooting digital systems using counters registers, code converters, multiplexes, analog-to-digital, digital-to-analog circuits, and large-scale integrated circuits. Prerequisite CETT 1325 or department chair approval. (3:2-2)

CETT 1357 Linear Integrated Circuits (151201)

(Formerly ELTE 2318)
A study of the characteristics, operations, stabilization, testing, and feedback techniques of linear integrated circuits. Application in computation, measurements, instrumentation, and active filtering. Prerequisite CETT 1329 or department chair approval. (3:2-2)

CETT 2449 Research and Project Design (1504020)

Principles of electrical/electronic design encompassing schematics wiring diagrams, materials lists, operating characteristics, completion schedules, and cost estimates. (4:3-3).

CPMT 1303 Introduction to Computer Technology (151202)

(Formerly ELTE 1311)
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. (3:2-2)

CPMT 1345 Computer Systems Maintenance (151202)

(Formerly ELTE 2319)

Examination of the functions of the components within a computer system. Development of skills in the use of test equipment and maintenance aids. Prerequisite CPMT 1303 or department chair approval. (3:2-2)

CPMT 1349 Computer Networking Technology (151202)

A beginning course in computer networks with focus on networking fundamentals, terminology, hardware, software, and network architecture. A study of local/wide area networking concepts and networking installations and operations. Prerequisite CPMT 1345 or department chair approval. (3:2-2)

CPMT 2333 Computer Integration (151202)

(Formerly ELTE 2341)

An advanced course in integration of hardware, software, and applications. Customization of computer systems for specific applications in engineering, multimedia, or data acquisition. Prerequisite CPMT 1345 or department chair approval. (3:2-2)

CPMT 2345 Computer System Troubleshooting (151202)

(Formerly ELTE 2423)

Principles and practices involved in computer system troubleshooting techniques and repair procedures including advanced diagnostic test programs and the use of specialized test equipment. Prerequisite CPMT 1345 or department chair approval. (3:2-2)

CPMT 2349 Advanced Computer Networking (150402)

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. Prerequisite: CPMT 1349. (3:2-2).

CSIR 1344 General Communication Circuits I (470103)

This course is designed to provide the student with an understanding of the basic theory and operation and troubleshooting of communication circuits used in radio communication electronic systems. Prerequisite CETT 1305 or department chair approval. (3:3-0)

EECT 2367 Practicum, (Field Experience) Electronic Technology/ Technician (150303)

(Formerly ELTE 2340)

Practical general training and experiences in the workplace. The College, with the employer, develops and documents an indi-

vidualized 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 for pay or no pay. This course may be repeated if topics and learning outcomes vary. Prerequisite CPMT 1345 or department chair approval. (3:1-20)

EECT 2433 Telephone Systems (150303)

A study of installation and maintenance systems including telephone sets, public switched networks, local exchanges, networks, two-and four-wire systems, tip and ringing requirements, and digital transmission techniques. (4:4-0)

EECT 2439 Communications Circuits (150303)

(Formerly ELTE 2422)

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. Prerequisite CETT 1357 or department chair approval. (4:3-3)

ELMT 2333 Industrial Electronics (150403)

(Formerly ELTE 2321)

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. Prerequisite: CETT 1357 or department chair approval. (3:2-4)

Art and Visual Communication

ARTC 1301 Basic Animation (100304)

(Formerly ARTS 2377)

(Not offered after Summer 2006 [200630])

Examination of concepts, characters, and storyboards for basic animation production. Emphasis on creating movement and expression utilizing electronically generated image sequences. Prerequisites: IMED 1301 or approval of department chair. (3:2-4)

ARTC 1302 Digital Imaging I (130409)

Digital imaging using raster image editing and/or image creation software: scanning, resolution, file formats, output devices, color systems, and image acquisitions. (3:2-4)

ARTC 1317 Design Communication I (500409)

An introductory study of design development relating to graphic design terminology, tools, 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. Students will not receive credit for both ARTC 1317 and ARTS 2313. Prerequisites: ARTC 1325 or concurrent enrollment with ARTC 1325. (3:2-4)

ARTC 1321 Illustration (500402)

(Formerly ARTS 1379)

A study of illustration techniques in various media. Emphasis on creative interpretation and disciplined draftsmanship for visual communication of ideas. Prerequisites: ARTC 1317, ARTS 2313 or approval of department chair. (3:2-4)

ARTC 1325 Introduction to Computer Graphics (110803)

(Formerly ARTS 1170)

A survey of computer design concepts, terminology, processes, and procedures. Topics include computer graphics hardware, electronic images, electronic publishing, vector-based graphics, and interactive multimedia. (3:2-4)

ARTC 1327 Typography (500409)

(Formerly ARTS 1374)

A study of letter forms and typographic concepts as elements of graphic communication. Emphasis on developing a current, practical typographic knowledge based on industry standards. (3:2-4)

ARTC 1341 3-D Animation I (100304)

(Not offered after Summer 2006 [200630])

Instruction in three-dimensional (3-D) modeling and rendering techniques including lighting, staging, camera, and special effects. Emphasis on 3-D modeling building blocks using primitives to create simple or complex objects. Prerequisites: ARTS 1345 or approval of department chair. (3:2-4)

ARTC 1345 3-D Modeling and Rendering (100304)

(Not offered after Summer 2006 [200630])

A studio course in the theory and technique of three-dimensional (3-D) modeling utilizing appropriate software. Topics include the creation and modification of 3-D geometric shapes; variety of rendering techniques; and use of camera light sources, texture, and surface mapping. Prerequisites: ARTV 1301 or approval of department chair. (3:2-4)

ARTC 1350 Illustration Techniques (500402)

Illustration techniques for production commercial art; and concepts, rough design, sketching, and discussions of various media and reproduction processes. Prerequisites: ARTS 2314, ARTC 2347 or approval of department chair. (3:2-4)

ARTC 1353 Computer Illustration (500402)

Exploration of computer programs with applications to illustration and photo manipulation and file management for reproduction. Emphasis on concept development in print digital delivery. Prerequisites: ARTC 1321 or approval of department chair. (3:2-4)

GRPH 2309 Electronic Pre-press I (480208)

(Formerly ARTC 2309)

Theory and techniques for pre-press preparation, using industry-standard software for final file output. Topics include the procedures and problems involved in computer file preparation ranging from trapping, color separations, and resolutions to printing basics and service bureaus. Prerequisites: ARTC 2347 or ARTS 2314 or approval of department chair. (3:2-4)

ARTC 2331 Illustration Concepts (500402)

Advanced study of different painting media such as digital and traditional tools. Emphasis on conceptualization and composition as they relate to "real world" assignments. Prerequisites: ARTC 1353 or approval of department chair. (3:2-4)

ARTC 2335 Portfolio Development for Graphic Design (500402)

Preparation of a portfolio comprised of completed graphic design class projects. Evaluation and demonstration of portfolio presentation methods based on the students' specific area of study. Prerequisite: ARTC 2314, ARTC 2347. (3:2-4)

ARTC 2341 3-D Animation II (100304)

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, animation, and outputting software. Prerequisites: ARTV 1345, ARTV 1341, or approval of department chair. (3:2-4)

ARTC 2347 Design Communication II (500409)

(Formerly ARTS 2373)

General practice of Commercial Art and production. Prerequisites: ARTC 1317 or ARTS 2313. Students will not receive credit for both ARTS 2314 and ARTC 2347. (3:2-4)

ARTC 2366 Commercial Art Field Experience (500402)

(Formerly ARTS 2375)

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 for pay or no pay. May be taken for credit in conjunction with each degree or certificate earned. Prerequisites: ARTS 2314, ARTC 2347 or approval of department chair. (3:1-20)

GRPH 2370 Electronic Pre-Press II (500402)

(Formerly ARTC 2370)

A continuation of Electronic Pre-Press I, with continued exploration of computer file preparation ranging from usage of Postscript, rip raster image processing, trapping, color separation and resolutions. Emphasis will be on individual progress. Prerequisites: GRPH 2309 or approval of department chair. (3:2-4)

ARTS 1301 Art Appreciation (5007035126)

(Formerly ART 133, 1313)

A general education course open to art and non-art majors. Design principles from a layman's point of view, critical evaluation of selected works in the fine and applied visual arts related to everyday life. Prerequisite: Reading Level 6. (3:3-0)

ARTS 1303 Art History I (5007035226)

(Formerly ART 1320)

A critical and analytical study of the great historical works of art in the fine and applied visual arts from the prehistoric era through the medieval period. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

ARTS 1304 Art History II (5007035226)

(Formerly ART 1321)

A critical and analytical study of the great historical works of art in the fine and applied visual arts from the Renaissance through the modern era. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

ARTS 1311 Design I (5004015326)

(Formerly ART 131, 1311)

Emphasis upon two-dimensional design, including the fundamentals of line, color, form, texture, shape, space and arrangement. (3:2-4)

ARTS 1312 Design II (5004015326)

(Formerly ART 132, 1312)

Continuation and expansion of Design I, including compositional principles of two-and three-dimensional art, and the creative and expressive use of media. Prerequisite: ARTS 1311. (3: 2-4)

ARTS 1316 Drawing I (5007055226)

(Formerly ART 135, 1315)

A beginning course investigating a variety of media, techniques and subjects, exploring perceptual and descriptive possibilities with consideration of drawing as a developmental process, as well as an end in itself. (3: 2-4)

ARTS 1317 Drawing II (5007055226)

(Formerly ART 136, 1316)

Expansion of Drawing I, stressing the expressive and conceptual aspects of drawing, including the human figure within a spatial environment. Prerequisite: ARTS 1316. (3: 2-4)

ARTS 2266 Studies in Contemporary Art (5007035326) (Formerly ARTS 2276)

An in-depth study of current concerns and practices in the visual arts stress in individually directed studio work. Topics may include but are not limited to design, drawing, painting, sculpture, ceramics, photography and advertising art. Producing a transfer or job-oriented portfolio will be emphasized. Prerequisite: Advanced sophomore standing and departmental approval. May be repeated one time for credit. (2:1-4)

ARTS 2276 Studies in Contemporary Art (5007035330)

(Not offered after Summer 2006 [200630])

An in-depth study of current concerns and practices in the visual arts, stressing individually directed studio work. Topics may include but are not limited to design, drawing, painting, sculpture, ceramics, photography and commercial art. Producing a transfer or job oriented portfolio will be emphasized. Prerequisites: Advanced sophomore standing and departmental approval. May be repeated one time for credit. (2:1-4)

ARTS 2313 Design Communications I (5004015126)

(Formerly ARTS 2351 Commercial Art I)

An introductory study of design development relating to graphic design technology, tools, 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. Students will not receive credit for both ARTC 1317 and ARTS 2313. Prerequisite: ARTC 1325 or concurrent enrollment with ARTC 1325. (3:2-4)

ARTS 2314 Design Communications II (5004015126)

(Formerly ARTS 2352)

General practice of commercial art and production. Prerequisites: ARTC 1317 or ARTS 2313. Students will not receive credit for both ARTS 2314 and ARTC 2347. (3:2-4)

ARTS 2316 Painting I (5007085226)

(Formerly ART 231, 2311)

Exploring the potentials of painting media with emphasis on color and composition. Prerequisites: (These apply only to students transferring credits to a senior college.) ARTS 1312 and 1317, or approval of department chair. (3: 2-4)

ARTS 2317 Painting II (5007085226)

(Formerly ART 232, 2312)

Continuation of Painting I with emphasis on individual expression. Prerequisite: ARTS 2316 or approval of department chair. (3: 2-4)

ARTS 2323 Life Drawing I (5007085326)

(Formerly ARTS 2323 Drawing III)

Life Drawing I is a studio course emphasizing structure and action of the human figure. Prerequisite: ARTS 1317 (3: 2-4)

ARTS 2324 Life Drawing II (5007085326)

(Formerly ARTS 2324 Drawing IV)

A further investigation of drawing the human figure, with emphasis on individual expression. Prerequisite: ARTS 2323 (3: 2-4)

ARTS 2326 Sculpture I (5007095126)

(Formerly ART 237, 2317)

An exploration of various sculptural approaches in a variety of media, including additive and subtractive techniques. Prerequisites: (These apply only to students transferring credits to a senior college.) ARTS 1312 and 1317, or approval of department chair. (3: 2-4)

ARTS 2327 Sculpture II (5007095126)

(Formerly ART 238, 2318)

A continuation of Sculpture I, with emphasis on individual expression. Prerequisite: ARTS 2326 or approval of department chair. (3: 2-4)

ARTS 2333 Printmaking I (5007105126)

An introduction to printmaking, including monoprints, relief, intaglio, and serigraphy. Prerequisites: (These apply only to students transferring credits to a senior college.) ARTS 1312 and 1317 or approval of department chair. (3: 2-4)

ARTS 2334 Printmaking II (5007105126)

A continuation of Printmaking I with emphasis on individual expression. Prerequisites: ARTS 2333 or approval of department chair. (3: 2-4)

ARTS 2341 Art Metals I (5007135126)

(Formerly ARTS 2341 Jewelry & Metalsmithing) A basic course in the fabrication and design of jewelry and metalsmithing. Prerequisites: ARTS 1312 and 1317, or approval of department chair. (3: 2-4)

ARTS 2342 Art Metals II (5007135126)

(Formerly ARTS 2342 Jewelry & Metalsmithing) An intermediate course in the fabrication and design of jewelry and metalsmithing. Prerequisites: ARTS 2341 or approval of department chair. (3: 2-4)

ARTS 2346 Ceramics I (5007115126)

(Formerly ART 235, 2319)

Studio course. An introduction to basic ceramic processes and an exploration of clay as an artistic medium. Includes mechanical (wheel-thrown) and hand-built techniques, and glazing and firing processes. Prerequisite: ARTS 1312 or approval of department chair. (3: 2-4)

ARTS 2347 Ceramics II (5007115126)

(Formerly ART 236, 2320)

Studio course. A continuation of ARTS 2346. Exploration of clay as an artistic medium, concentrating on combinations of mechanical and hand-built techniques. Prerequisite: ARTS 2346. (3: 2-4)

ARTS 2351 Commercial Art I (5004015126)

(Not offered after Fall 2005 [200610])

An introductory study of design development relating to graphic design technology, 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. Students will not receive credit for both ARTS 2351 and ARTC 1317. (3:2-4)

ARTS 2352 Commercial Art II (5004015126)

(Not offered after Fall 2005 [200610])

General practice of Commercial Art and production. Prerequisites: ARTC 2351 or ARTS 1317. Student will not receive credit for both ARTC 2352 and ARTS 2347. (3:2-4)

ARTS 2356 Fine Arts Photography I (5006055126)

A beginning course in the taking, developing and printing of photographs. Students receive instruction in photographic principles and are given assignments to complete in the laboratory periods or outside class. The College furnishes darkroom facilities and a limited number of cameras. Students will not receive credit for both ARTS 2356 and COMM 1318. Prerequisites for art majors: ARTS 1312 and ARTS 1317, or approval of department chair. (3: 2-4)

ARTS 2357 Fine Arts Photography II (5006055226)

A continuous development of techniques, with emphasis on content and composition of photographs, including experience in a variety of professional and technical areas. Students will not receive credit for both ARTS 2357 and COMM 1319. Prerequisite: COMM 1318 or ARTS 2356 or approval of department chair. (3: 2-4)

ARTS 2366 Watercolor I (5007085326)

Introduction to the basic techniques and materials of transparent and opaque watercolors. Prerequisites: (These apply only to students transferring credits to a senior college.) ARTS 1312 and ARTS 1317, or approval of department chair. (3: 2-4)

ARTS 2367 Watercolor II (5007085326)

Continuation of Watercolor I, with emphasis on individual expression. Prerequisite: ARTS 2366 or approval of department chair. (3: 2-4)

ARTV 1301 Animation 2-D (500101)

(Formerly ARTS 2378)

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 mapping. Prerequisites: ARTV 1303 or approval of department chair. (3:2-4)

ARTV 1303 Basic Animation (100304)

(Formerly ARTC 1301)

Examination of concepts, characters, and storyboard for basic animation production. Emphasizes creating movement and expression utilizing traditionally or digitally generated image sequences. Prerequisite: IMED 1301 or approval of department chair. (3:2-4)

ARTV 1341 3-D Animation I (100304)

(Formerly ARTC 1341)

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. Prerequisites: ARTV 1345 or approval of department chair. (3:2-4)

ARTV 1345 3-D Modeling and Rendering (100304)

(Formerly ARTC 1345)

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, lecture, and surface mapping. Prerequisites: ARTV 1303 or approval of department chair. (3:2-4)

ARTV 1351 Digital Video (100304)

(Formerly IMED 1351)

Producing and editing video and sound for multimedia or web productions. Emphasizes capture, editing, and outputting of video using a desktop digital video workstation. Prerequisites: ARTS 2314 or approval of department chair. (3:2-4)

IMED 1301 Introduction to Multimedia (110801)

A survey of theories, elements, and hardware/software components of multimedia. Topics include digital image editing, digital sound and video editing, animation, web page development, and interactive presentations. Emphasis on conceptualizing and producing effective multimedia presentations. Prerequisites: ARTC 1325 or approval of department chair. (3:2-4)

IMED 1316 Web Page Design I (110801)

(Formerly ARTS 2376)

Instruction in Internet web page design and related graphic design issues, including mark-up languages, web sites, Internet access software, and interactive topics. Prerequisites: ARTC 1325 or approval of department chair. (3:2-4)

IMED 1351 Digital Video (110801)

(Not offered after Summer 2006 [200630])

Skill development in producing and editing video and sound for multimedia productions. Emphasis on the capture, editing, and outputting of video using a desktop digital video workstation. Prerequisites: ARTS 2352 or approval of department chair. (3:2-4)

IMED 2315 Web Page Design II (110801)

A study of hypertext mark-up language (HTML) and interesting layout techniques for creating and engaging well designed web pages. Emphasis on identifying the target audience and producing a web site according to physical and technical limitations, cultural appearance, and legal issues. Prerequisites: IMED 1316 or approval of department chair. (3:2-4)

IMED 2345 Interactive Multimedia (110801)

(Formerly ARTS 1376)

Instruction in the use of graphics and scripting language to create time-based animation and interactive multimedia projects using industry standard authoring software. Topics include building a user interface, writing script, using commands and functions, testing, and debugging. Prerequisites: IMED 1301 or approval of department chair. (3:2-4)

ITSW 1310 Presentation Media Software (110301)

Instruction in the utilization of presentation software to produce multimedia presentations. Graphics, text, sound, animation and/or video may be used in presentation development. Prerequisites: ARTS 2352 or approval of department chair. (3:2-4)

Audio Engineering

See Music

Automotive Collision Repair Technology

ABDR 1303 Vehicle Design and Structural Analysis (470603)

An introduction to the collision repair industry with emphasis on safety, professionalism, and vehicle structural design. Prerequisite: Reading Level 4. (3:2-2)

ABDR 1307 Auto Body Welding (470603)

(Formerly ABDR 1207)
A study of industry and standard welding and cutting procedures. Prerequisite: Reading Level 4. (3:2-2)

ABDR 1315 Vehicle Interior Trim and Hardware (470603)

(Formerly ABRT 2313)
An In-depth study of vehicle trim and glass service. Prerequisite: Reading Level 4. (3:2-2)

ABDR 1323 Front and Rear Wheel Alignment (470603)

In-depth study of vehicle steering components including alignment, tire rotation, and balancing. Prerequisite: Reading Level 4. (3:2-2)

ABDR 1431 Basic Refinishing (470603)

(Formerly ABRT 1319)
An introduction to current refinishing products, shop safety, and equipment used in the automotive refinishing industry. Emphasis on surface preparation, masking techniques, and refinishing of trim and replacement parts. Prerequisite: Reading Level 4. (4:3-3)

ABDR 1441 Structural Analysis and Damage Repair I (470603)

(Formerly ABRT 1521, ABDR 1541)
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. Prerequisite: Reading Level 4. (4:3-3)

ABDR 1449 Automotive Plastic and Sheet Molded Compound Repair (470603)

(Formerly ABDR 1349)
A comprehensive course in repair of interior and exterior plastics including the use of various types of adhesives and plastic welding. Prerequisite: Reading Level 4. (4:3-3)

ABDR 1519 Basic Metal Repair (470603)

(Formerly ABRT 1320)
In-depth coverage of basic metal principles and working techniques including proper tool usage and product application. Prerequisite: Reading Level 4. (5:3-5)

ABDR 1555 Minor Metal Repair (470603)

(Formerly ABRT 2314)
A course in sheet metal alignment principles using mechanical and hydraulic equipment. Emphasis on attachment devices used to straighten and align exterior body panels. Prerequisite: Reading Level 4. (5:3-5)

ABDR 1558 Intermediate Refinishing (470603)

(Formerly ABDR 1458)
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. Prerequisite: Reading Level 4. (5:3-5)

ABDR 2255 Collision Repair Estimating (470603)

(Formerly ABDR 2355)
An advanced course in collision estimating and development of an accurate damage report. Prerequisite: Reading Level 4. (2:2-0)

ABDR 2257 Collision Repair Shop Management (470603)

A study of methods and equipment used in collision repair shops to improve management functions and profitability. Prerequisite: Reading Level 4. (2:2-0)

ABDR 2353 Color Analysis and Paint Matching (470603)

Advanced course in color theory, color analysis, tinting, and advanced blending techniques for commercially acceptable paint matching. Prerequisite Reading Level 4. (3:2-2)

ABDR 2380 Cooperative Education — Autobody/Collision and Repair Technology/ Technician (470603)

(Formerly ABRT 2317, ABDR 2366)
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. This may be a paid or unpaid experience. Prerequisite: Reading Level 4. (3:1-14).

ABDR 2502 Auto Body Mechanical and Electrical Service (470603)

A course in the repair, replacement, and/or service of collision damaged mechanical or electrical systems. Topics include drive train removal, reinstallation and service; cooling system service and repair; exhaust system service; and emission control systems. Additional topics include wire and connector repair, reading diagrams, and troubleshooting. Prerequisites: Reading Level 4. (5:3-5).

ABDR 2541 Major Collision Repair and Panel Replacement (470603)

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. Prerequisite: Reading Level 4. (5:3-5)

ABDR 2549 Advanced Refinishing (470603) (Formerly ABRT 2513, ABDR 2249)

Skill development in multi-stage refinishing techniques. Further development in identification of problems and solutions in color matching and partial panel refinishing. Prerequisite: Reading Level 4. (5:3-5).

ABDR 2551 Specialized Refinishing Techniques (470603)

(Formerly ABRT 2315)
Advanced topics in specialty automotive refinishing. Emphasis on refinishing of interior plastics, fiberglass, and aluminum and galvanized panels as well as custom graphics and current industry innovations. Prerequisite: Reading Level 4. (5:3-5)

Automotive Technology

AUMT 1280 Cooperative Education Auto/Automotive Mechanic/Technician (470604)

(Formerly AUTO 2310, AUMT 1380)
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 aid work experience. (2:1-10)

AUMT 1310 Automotive Brake Systems (470604)

(Formerly AUTO 1517, AUMT 1410)
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, and anti-lock brake systems and parking brakes. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1316 Steering and Suspension (470604)

(Formerly AUTO 1517, AUMT 1416)
Theory and operation of automotive suspension and steering systems including tire and wheel problem diagnosis, component repair, and alignment procedures. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1345 Automotive Heating and Air Conditioning (470604)

(Formerly AUTO 2517, AUMT 1445)
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. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1405 Introduction to Automotive Technology (470604)

(Formerly AUTO 1511)
(Not offered after Summer 2004 [200430])
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. This course may be taught with manufacturer specific instructions. (4:2-6)

AUMT 1407 Automotive Electrical Systems (470604)

(Formerly AUTO 1512)
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. This course may be taught with manufacturer specific instructions. (4:2-6)

AUMT 1419 Automotive Engine Repair (470604)

(Formerly AUTO 1513)
Fundamentals of engine operation, diagnosis and repair, including lubrication systems and cooling systems. Emphasis on

overhaul of selected engines, identification and inspection, and measurements, and on disassembly, repair, and reassembly of the engine. This course may be taught with manufacturer specific instructions. (4:2-6)

AUMT 2311 Automotive Electronic Controls (470604)

(Formerly AUMT 2434)
A study of electrical principles, semiconductor and integrated circuits, digital fundamentals, microcomputer systems, and electrical test equipment as applied to automotive technology. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 2313 Manual Drive Train and Axles (470604)

(Formerly AUTO 1516, AUMT 2413)
A study of automotive clutches, clutch operation devices, standard transmissions, transaxles, and differentials, with emphasis on the diagnosis and repair of transmissions and drive lines. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 2340 Automotive Alternative Fuels (470604)

A study of the composition and use of various alternative automobile fuels inc This course may be taught with manufacturer specific instructions, using retrofit procedures and applications, emission standards, availability, and cost effectiveness. Topics of study will include an overview of federal and state legislation concerning fuels. (3:2-4)

AUMT 2371 Automotive Hybrid Systems (470604)

An overview of automotive hybrid systems, including topics in theory, testing, diagnosis, and repair of hybrid systems. The operating principles for gasoline/electric propulsion systems, techniques for maintenance, repair and how they differ from the procedures used for traditional gasoline powered vehicles will be discussed. This course may be taught with manufacturer specific instructions. (3:2-2)

AUMT 2417 Engine Performance Analysis I (470604)

(Formerly AUTO 2511)
Theory, operation, diagnosis, and repair of basic engine dynamics, ignition systems, and fuel delivery systems. Use of basic engine performance diagnostic equipment. This course may be taught with manufacturer specific instructions. (4:2-6)

AUMT 2425 Automotive Transmission and Transaxles (470604)

(Formerly AUTO 1514)

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. This course may be taught with manufacturer specific instructions. (4:2-6)

AUMT 2455 Special Topics in Auto/Automotive Mechanic/Technician (Engine Machining) (470604)

(Formerly AUTO 2513)

An in-depth study of precision engine rebuilding, cylinder reconditioning, and crack repair. Machines and equipment necessary to complete an engine repair will be utilized. Prerequisite: AUMT 1419 or department chair approval. (4:2-6)

Automotive Student Service Educational Training Program-Ford Motor Company

AUMT 1305 Introduction to Automotive Technology (470604)

(Formerly ASET 1311)

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. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1310 Automotive Brake Systems (470604)

(Formerly ASET 1313)

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. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1316 Suspension and Steering (470604)

(Formerly ASET 1314)

Theory and operation of automotive suspension and steering systems, including tire and wheel problem diagnosis, component repair, and alignment procedures. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1345 Automotive Heating and Air Conditioning (470604)

(Formerly ASET 2311)

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. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1407 Automotive Electrical Systems (470604)

(Formerly ASET 1411)

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. This course may be taught with manufacturer specific instructions. (4:2-6)

AUMT 1419 Automotive Engine Repair (470604)

(Formerly AUMT 1319, ASET 1312)

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. This course may be taught with manufacturer specific instructions. (3:2-6)

AUMT 2313 Manual Drive Train and Axles (470604)

(Formerly ASET 2312)

A study of automotive clutches, clutch operation devices, standard transmissions, transaxles, and differentials, with emphasis on the diagnosis and repair of transmissions and drive lines. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 2388 Internship-Auto/Automotive Mechanic/Technician (470604)

(Formerly ASET 2414, AUMT 2389)

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. (3:0-15)

AUMT 2389 Internship-Auto/Automotive Mechanic Technician (470604)

(Not offered after Summer 2004 [200430])

(Formerly ASET 2412)

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. (3:0-15)

AUMT 2417 Engine Performance Analysis I (470604)

(Formerly AUMT 2317, 2437)

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 manufacture specific. (4:2-6)

AUMT 2425 Automotive Transmission and Transaxle (470604)

(Formerly ASET 2411)

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. This course may be taught with manufacturer specific instructions. (4:2-6)

AUMT 2434 Engine Performance Analysis II (470604)

(Not offered after Summer 2004 [200430])

(Formerly ASET 2412)

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. This course may be taught with manufacturer specific instructions. (4:2-6)

Automotive Service Educational Program-General Motors

AUMT 1281 Cooperative Education-Auto/Automotive Mechanic/ Technician (470604)

(Formerly ASEP 2310)

(Not offered after Summer 2004 [200430])

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. (2:0-11)

AUMT 1305 Introduction to Automotive Technology (470604)

(Formerly ASEP 1311)

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. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1310 Automotive Brake Systems (470604)

(Formerly ASEP 2311)

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. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1316 Suspension and Steering (470604)

(Formerly ASEP 1312)

Theory and operation of automotive suspension and steering systems, including tire and wheel problem diagnosis, component repair, and alignment procedures. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1345 Automotive Heating and Air Conditioning (470604)

(Formerly ASEP 1315)

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. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1407 Automotive Electrical Systems (470604)

(Formerly ASEP 1412)

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 sche-

matic diagrams and service manuals. This course may be taught with manufacturer specific instructions. (4:2-6)

AUMT 1419 Automotive Engine Repair (470604)

(Formerly ASEP 1411)

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. This course may be taught with manufacturer specific instructions. (4:2-6)

AUMT 2313 Manual Drive Train and Axles (470604)

(Formerly ASET 2312)

A study of automotive clutches, clutch operation devices, standard transmissions, transaxles, and differentials, with emphasis on the diagnosis and repair of transmissions and drive lines. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 2389 Internship-Auto/Automotive Mechanic/Technician (470604)

(Formerly ASEP 2414)

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. (3:0-15)

AUMT 2417 Engine Performance Analysis I (470604)

(Formerly ASEP 2411)

Theory, operation, diagnosis, and repair of basic engine dynamics, ignition systems, and fuel delivery systems. Use of basic engine performance diagnostic equipment. This course may be taught with manufacturer specific instructions. (4:2-6)

AUMT 2425 Automatic Transmission and Transaxle (470604)

(Formerly ASEP 2412)

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. This course may be taught with manufacturer specific instructions. (4:2-6)

AUMT 2434 Engine Performance Analysis II (470604)

(Formerly ASEP 2313)

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. This course may be taught with manufacturer specific instructions. (4:2-6)

Toyota Technical Education Network

AUMT 1171 Special Topics in Auto/Automotive Mechanic/Technician Toyota Pre-Delivery (470604)

(Not offered after Summer 2004 [200430])

(Formerly TTEN 1311)

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. (1:1-0)

AUMT 1310 Automotive Brake Systems (470604)

(Formerly TTEN 2312)

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. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1316 Suspension and Steering (470604)

(Formerly TTEN 2312)

Theory and operation of automotive suspension and steering systems, including tire and wheel problem diagnosis, component repair, and alignment procedures. This course may be taught with manufacturer specific instructions. (3:2-4)

AUMT 1345 Automotive Heating and Air Conditioning (470604)

(Formerly TTEN 2311)

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. This course may be taught with manufacturer specific instructions. (3:2-4)

**AUMT 1381 Cooperative Education-Auto/
Automotive Mechanic/Technician (470604)**

(Formerly TTEN 2310)

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. (3:0-15)

**AUMT 2313 Manual Drive Train and Axles
(470604)**

(Formerly TTEN 2412)

A study of automotive clutches, clutch operation devices, standard transmissions, transaxles, and differentials, with emphasis on the diagnosis and repair of transmissions and drive lines. This course may be taught with manufacturer specific instructions. (3:2-4)

**AUMT 2321 Toyota Electrical Lighting and
Accessories (470604)**

Repair of automotive electrical subsystems, lighting, instrumentation, and accessories. Emphasis on accurate diagnosis and proper repair methods using various troubleshooting skills and techniques. This course may be taught with manufacturer specific instructions. (3:2-4)

**AUMT 2425 Automatic Transmission and
Transaxle (470604)**

(Formerly TTEN 2411)

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. This course may be taught with manufacturer specific instructions. (4:2-6)

**AUMT 2434 Engine Performance Analysis II
(470604)**

(Formerly TTEN 2413)

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. This course may be taught with manufacturer specific instructions. (4:2-6)

Bible

The Division of Student Work of the Christian Education Commission of the Baptist General Convention of Texas and the Union Baptist Association have taught courses in Bible as a part of the College curriculum through a Bible Chair program at San Jacinto College since the fall semester of 1966. The basis of the Baptist Bible Chair program in state-supported colleges and universities in Texas includes:

1. Credit given by the College for elective courses in Bible
2. All financial support provided by the Union Baptist Association and/or the Baptist General Convention of Texas
3. The Union Baptist Association and/or the Baptist General Convention of Texas select and recommend the person to the College administration for approval as instructor of Bible (meeting qualifications comparable to those of any other instructor at San Jacinto College)
4. Classes taught from a nonsectarian viewpoint

BIBL 1311 Survey of the Old Testament

(Formerly Bible 131)

A survey of the Old Testament in relation to its historical background and history of the Hebrews and their religious outlook on life. (3:3-0)

BIBL 1312 Survey of the New Testament

(Formerly Bible 132)

A survey of the New Testament in relation to its historical and basic Christian teachings. (3:3-0)

BIBL 2311 Life and Teachings of Christ

(Formerly Bible 231)

An intensive study of the life and teachings of Christ, as revealed in the Synoptic Gospels. Attention is given to the economic, social, political and religious conditions of the world of his day. (3:3-0)

BIBL 2312 Life and Letters of Paul

(Formerly Bible 232)

An intensive study of the apostle Paul and his writings with reference to the gospel message as he applied it to the problems of his day. Attention is given to the economic, social, political and religious conditions of the time. (3:3-0)

Biology**BIOL 1406 General Biology I (2601015103)**

General Biology I is a contemporary course covering the scientific method, cellular and molecular biology, biochemistry, classical and human genetics, and evolution. Prerequisite: Reading Level 6. (4:3-3)

BIOL 1407 General Biology II (2601015103)

General Biology II is a survey of viruses, Kingdoms Monera, Protista, Fungi, Plantae, and Animalia. The study of organism systems is stressed and integrated. Development and ecology topics are included. Prerequisite: Reading Level 6. (4:3-3)

BIOL 1411 General Botany (2603015103)

(Formerly Biology 142, 1412)

The fundamental principles of plant life. Structure, physiology, taxonomy, and life histories of plants. Basic principles of heredity, ecology, distribution, adaptation, populations, and evolution of organisms are included. Prerequisite: Reading Level 6. (4:3-3)

BIOL 1413 General Zoology (2607015103)

(Formerly Biology 141, 1411)

The fundamental principles of living animals. Structure and physiology of animals. Animal development and taxonomy, with considerable reference to man. Prerequisite: Reading Level 6. (4:3-3)

**BIOL 2306 Environmental Biology
(301035101)**

(Not Offered After Fall 2005 [200610])

The course is designed to study the human interaction with and effect upon plant and animal communities, with a focus on conservation, pollution, energy, sustainability, and other contemporary ecological problems. It will include a general study of ecological concepts, an introduction to natural resources, the study of the biotic and abiotic interrelationships and the energy transfer through food chains and food webs. It will introduce biological and chemical principles as they relate to the environment. The three-credit course consists of three lecture hours per week. Prerequisites: Reading Level 7, BIOL 1407, BIOL 1411, or BIOL 1413. (3:3-0)

**BIOL 2316 Principles of Genetics (Heredity)
(2608045103)**

(Formerly Biology 231, 2311)

Study is made of the principles of inheritance and variation in plant and animal populations. Emphasis is placed on Mendelian inheritance, molecular genetics, and population genetics. Prerequisites: BIOL 1406 and 1407 or BIOL 1411 and 1413 or approval of department chair and Reading Level 7. (3:3-0)

BIOL 2401 Human Anatomy and Physiology I (2607075103)

(Formerly Biology 245, 2415)

Chemical and cellular levels of organization. The study of the structure and function of the integumentary, skeletal, muscular, nervous and endocrine systems. Prerequisite: Reading Level 7. (4:3-3)

BIOL 2402 Human Anatomy and Physiology II (2607075103)

(Formerly Biology 246, 2416)

The structure and function of the cardiovascular, respiratory, digestive, urinary, and reproductive systems. Basic principles of human genetics are included. Prerequisite: Reading Level 7. (4:3-3)

BIOL 2406 Environmental Biology (0301035101)

The course is designed to study the human interaction with and effect upon plant and animal communities, with a focus on conservation, pollution, energy, sustainability, and other contemporary ecological problems. It will include a general study of ecological concepts, an introduction to natural resources, the study of the biotic and abiotic interrelationships and the energy transfer through food chains and food webs. It will introduce biological and chemical principles as they relate to the environment. It will introduce laboratory and field approaches to the study of the environment. A student may not receive credit for both BIOL 2306 and BIOL 2406. Prerequisites: Reading Level 7, BIOL 1406, 1407, 1411, or 1413. (4:3-3)

BIOL 2416 Genetics (2608045103)

This course is designed to give students a comprehensive, in-depth survey of the field of modern genetics. Genetics is concerned with the study of heredity and the molecular basis of physical traits. The broad scope of the discipline extends from the study of simple molecules (DNA structure and function), to inheritance patterns, to populations of organisms. The course is designed with a lecture and laboratory format, meeting three hours per week for lecture and three hours per week for lab, and as such awards 4 credit hours. Topics include (but are not limited to): Mendelian and non-Mendelian inheritance patterns, the molecular nature of genes, the physical and chemical nature of DNA, biotechnology, and the applications of these topics for medicine and industry. Prerequisites: BIOL 1406 and 1407, or 1413 and 1411, or approval of department chairman and Reading Level 7. At least one semester of college chemistry is strongly recommended. (4:3-3)

BIOL 2420 Microbiology and Pathology (2605035103)

(Formerly Biology 144, 1414)

A study of microbiology and pathology from the standpoint of cause, symptoms, and prevention of disease. Basic principles of immunological responses by the body in relation to visible pathological symptoms will be stressed. This course is primarily designed for those students pursuing a degree as a registered nurse. Prerequisites: BIOL 2401 or 2402 or approval by department chair and Reading Level 7. A student may not receive credit for both BIOL 2420 and BIOL 2421. (4:3-3)

BIOL 2421 Introductory Microbiology (Bacteriology) (2605035103)

(Formerly Biology 241, 2411)

The morphology, physiology, and taxonomy of microorganisms. Relation of man to microorganisms in agriculture, industry, sanitation, and disease. Prerequisites: BIOL 1406 and BIOL 1407 or BIOL 1411 and 1413, CHEM 1411 and 1412, and sophomore standing, Reading Level 7. Some prerequisites may be waived with permission of department chair. A student may not receive credit for both BIOL 2420 and BIOL 2421. (4:3-3)

BITC 1311 Introduction to Biotechnology (410101)

An introduction to biotechnology including career exploration, history and applications of DNA/RNA technology, molecular biology, bioethics, and laboratory safety practices. Prerequisites: Reading Level 7, Writing Level 7, Math Level 7. (3:2-1)

ENVR 1401 Environmental Science I: Principles of Environmental Systems (0301035201)

An overview of environmental and urban systems and current global concerns. Exploration of scientific, economics, social, and political solutions to environmental problems with emphasis on ethical issues and substitutability. Field trips required. Prerequisites: Reading Level 7, Writing Level 7, Math Level 7 (4:3-3)

ENVR 1402 Environmental Science II: Chemicals in the Environment (0301035201)

An overview of chemicals and contaminants in the environment, including description of environmental media, types of contaminants, their properties, their fate and transport in the environment, potential remediation technologies, and environmental regulation(s). Prerequisites: Reading Level 7, Writing Level 7, Math Level 9. (4:3-3)

Business

BCIS 1305 Business Computer Applications (1102025204)

This course discusses computer terminology, hardware, software, operating systems, and information systems relating to the business environment. The main focus of this course is on business application of software, including word processing, spreadsheets, databases, presentation graphics, and business-oriented utilization of the Internet. (3:3-1)

BUSG 2309 Small Business Management (520703)

(Formerly Management of Small Business 237, GENB 2317, BUSI 2317, BUSI 2377)

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. Prerequisite: Reading Level 4. (3:3-0)

BUSG 2317 Business Law/Commercial (220101)

(Formerly Business Law 235, GENB 2316, BUSI 2302)

The relationships of law and business as they relate to commercial transactions. Prerequisite: Reading Level 7. (3:3-0)

BUSI 1301 Introduction to Business (5201015104)

(Formerly Business Principles 233, GENB 2303, BUSI 1301, BUSG 1301)

Fundamental business principles, including structure, functions, resources, and operational processes. Prerequisite: Reading Level 6. (3:3-0)

BUSI 1304 Business Report Writing and Correspondence (2311015204)

(Formerly GENB 1305)

A study of the principles of effective written and oral communication in business situations. Includes grammar, spelling, punctuation, and sentence structure as employed in business. Stresses common communication weaknesses identified in today's business employees. (3:3-0)

BUSI 2301 Business Law I (2201015104)

(Formerly Business Law 235, GENB 2315)

Major content areas covered include general principles of law and the legal system, contracts, sales, commercial paper, bank-customer relations, agency, and property. Prerequisite: Reading Level 7. (3:3-0)

BUSI 2304 Business Communications (2311015204)

(Formerly Business Communications 230, GENB 2301)

A study of the practical principles of word usage, language structure, and writing mechanics. Detailed attention is given to report writing and to the construction of letters concerned with sales, credits, collections, inquiries, adjustments, orders, recommendations, and applications for employment. Prerequisite: BUSI 1304 or Writing Level 7. (3:3-0)

Business Management**BMGT 1301 Supervision (520204)**

(Formerly Management Development 132, MGTD 1312, MGMT 1312)

A study of the role of the supervisor. Managerial functions as applied to leadership, counseling, motivation, and human skills are examined. Prerequisite: Reading Level 4. (3:3-0)

BMGT 1303 Principles of Management (520201)

(Formerly Management Development 231, MGTD 2311, MGMT 2311)

Concepts, terminology, principles, theory and issues that are the substance of the practice of management. Prerequisite: Reading Level 4. (3:3-0)

BMGT 1313 Principles of Purchasing (520202)

(Formerly Management Development 134, MGTD 1314, MGMT 1314)

The purchasing process as it is related to such topics as inventory control, price determination, vendor selection, negotiation techniques, and ethical issues. (3:3-0)

BMGT 1325 Office Management (520204)

(Formerly Management Development 235, MGTD 2315, MGMT 2315)

Systems, procedures, and practices related to organizing and planning office work, controlling employees' performance, and exercising leadership skills. Prerequisite: Reading Level 4. (3:3-0)

BMGT 1331 Production and Operations Management (520205)

(Formerly Management Development 234, MGTD 2314, MGMT 2314)

Fundamentals of the various techniques used in the practice of production management to include locations, design, and resource allocation. Prerequisite: Reading Level 4. (3:3-0)

BMGT 1391 Special Topics in Business Administration and Management (520201)

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. The course may be repeated a maximum of two times for credit (a total of three times) provided the repeated course covers a different topic. Prerequisites: Reading Level 4. (3:3-0)

BMGT 2368 Practicum (or Field Experience) (520201)

(Formerly Management Development 130, 133, 230, 239 or 2301, Mid-Management 121, 122, 221 or 222, MGTD 2301, MGMT 2375)

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. (3:1-20)

BUSI 1311 Salesmanship (5218045104)

(Formerly Management Development 136, MGMT 1316)

A course dealing with the principles of personal salesmanship; a study of methods, problems, and techniques of motivating customers to buy. (3:3-0)

HRPO 1311 Human Relations (521003)

(Formerly Management Development 131, MGTD 1311, MGMT 1311)

Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment. (3:3-0)

HRPO 2301 Human Resources Management (521001)

(Formerly Management Development 232, MGTD 231, MGMT 2312)

Behavioral and legal approaches to the management of human resources in organizations. Prerequisite: Reading Level 4 (3:3-0)

MRKG 1311 Principles of Marketing (521401)

(Formerly Management Development 238, MGTD 2318, MGMT 2318)

Introduction to basic 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. Prerequisite: Reading Level 4. (3:3-0)

MRKG 2376 E-Commerce Marketing (521401)

E-Commerce Marketing explores the convergence and divergence of traditional marketing principles and strategies with those of marketing on the Internet. This course explores the opportunities, challenges and ethical issues that this dynamic marketing tool brings to the marketing plan. Prerequisites: Reading level 4, Writing Level 4. (3:3-0)

Business Office Technology**HITT 1305 Medical Terminology (510707)**

Study of word origin and structure through the introduction of prefixes, suffixes, root words, plurals, abbreviations, and symbols, surgical procedures, medical specialties, and diagnostic procedures. Prerequisites: Reading Level 4, Writing Level 4. (3:3-0)

MRMT 1307 Medical Transcription I (510708)

(Formerly POFM 1331)
Fundamentals of medical transcription with hands-on experience in transcribing physician dictation including basic reports such as history and physicals, discharge summaries, consultants, operative reports, and other medical reports. Utilizes transcribing and information processing equipment compatible with industry standards. Designed to develop speed and accuracy. Prerequisites: POFM 1313 or HITT 1305 and word processing skills. (3:3-1)

POFI 1341 Computer Applications II (520407)

(Formerly OFAD 2372)
Continued study of current computer terminology and technology. Advanced skill development in computer hardware, software applications, and procedures. Prerequisite: BCIS 1305, or equivalent. (3:3-1)

POFI 1349 Spreadsheets (520407)

(Formerly SSOA 2305; OFAD 2305, OFAD 2376)
Intermediate level of instruction that includes in-depth coverage in the use of spreadsheet software focusing on business applications. Topics include worksheet creation and modification, graphics, and use of macro programming database functions. Prerequisite: BCIS 1305 or introductory computer applications course. (3:3-1)

POFI 1391 Special Topics in Information Processing/ Web Page Design (520407)

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. (3:3-0)

POFI 2301 Word Processing (520407)

(Formerly Word Processing 234, SSOA 2304, OFAD 2304, OFAD 2371)

Intermediate level instruction that includes in-depth coverage of word processing software focusing on business applications. Emphasis on the use of text editing features to produce business documents. Prerequisite: Keyboarding proficiency and BCIS 1305, or an introductory computer applications course. (3:3-1)

POFI 2331 Desktop Publishing for the Office (520407)

In-depth coverage of desktop publishing terminology, text editing, and use of design principles to create publishing material using word processing desktop publishing features. Emphasis on layout techniques, graphics, multiple-page displays, and business applications. Prerequisite: Proficiency in word processing software. (3:3-1)

POFL 1305 Legal Terminology (220301)

(Formerly OFAD 1371)

An introduction to legal terminology, including spelling, pronunciation, and definition of legal terms. Includes an overview of the areas of law and the legal professions. (3:3-0)

POFL 2301 Legal Document Processing (220301)

(Formerly OFAD 2373)

Intermediate level skill development in the production of legal documents used in the legal and court systems. Prerequisite: High-level keyboarding skills. (3:3-1)

POFM 1313 Medical Terminology I (510716)

(Formerly OFAD 1372)

(Not offered after Summer 2006 [200630])

Instruction in the practical application of a medical vocabulary system. Topics include structure; recognition; analysis; definitions; spelling; pronunciation; and combination of medical terms from prefixes, suffixes, roots, and combining forms. Prerequisite: BUSI 1304 and BCIS 1305, or department chair approval. (3:3-0)

POFM 1331 Medical Transcription I (510716)

(Formerly OFAD 2378)

(Not offered after Summer 2006 [200630])

Fundamentals of medical transcription, including basic reports such as history and physicals, discharge summaries, consultations, operative reports, and other medical reports. Emphasis on development of speed and accuracy. Prerequisite: POFM 1313. (3:3-1)

POFT 1127 Introduction to Keyboarding (520408)

(Formerly BUSI 1171)

Skill development in keyboarding with emphasis on alphabet, number, and symbol keys by touch. Skills can be applied to computers, typewriters, and other equipment with keyboards. (1:1.5-.5)

POFT 1309 Administrative Office Procedures I (520401)

(Formerly Office Procedures 232, SSOA 2312, OFAD 2312)

Advanced office application with emphasis on decision making and critical thinking. Study of current office procedures, including telephone skills, time management, travel and meeting arrangements, mail processing, and other duties and responsibilities in an office environment. Prerequisite: Basic keyboarding skills and BCIS 1305, or approval of department chair. (3:3-0)

POFT 1319 Records and Information Management I (520401)

(Formerly Records Management 134, SSOA 1314, OFAD 1314)

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. (3:3-0)

POFT 1325 Business Math and Machine Applications (520408)

(Formerly Business Machines 131, GENB 1301, BUSI 1309)

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. (3:3-0)

POFT 1329 Keyboarding and Document Formatting (520408)

(Formerly Typewriting 131, SSOA 1311, OFAD 1311)

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. (3:3-1)

POFT 2301 Document Formatting and Skill Building (520408)

(Formerly Typewriting 132, SSOA 1312, OFAD 1312)

A continuation of keyboarding skills in document formatting, speed, and accuracy. Emphasis on proofreading, editing, following instructions, and keying documents from various types of copy. Prerequisite: POFT 1329 or keyboarding proficiency. (3:3-1)

POFT 2364 Practicum (520401)

(Formerly OFAD 2375)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student (3:0-21)

Chemistry

CHEM 1411 General Inorganic Chemistry I (4005015203)

(Formerly Chemistry 141)

The first semester of two college level courses in general inorganic chemistry. It includes measurements, atomic and molecular structure, periodic classification of elements, chemical nomenclature, empirical and molecular formulas, equation writing, stoichiometry and gas laws. Prerequisites: Reading Level 6 and Math Level 7. (4:3-3)

CHEM 1412 General Inorganic Chemistry II (4005015203)

(Formerly Chemistry 142)

The second semester of general inorganic chemistry, including a study of liquids, solids, solutions, acids, bases, ionic equations, oxidation/reduction equations, reaction rates, chemical equilibria, and thermochemistry. Prerequisites: CHEM 1411 and Reading Level 7. (4:3-3)

CHEM 2423 Organic Chemistry I (4005045203)

(Formerly Chemistry 243, 2413)

An introductory organic chemistry course, including covalent bonding, isomerism, nomenclature, stereochemistry, alkyl halides, substitution and elimination reactions, free radical reactions, alkanes, alcohols, ethers and spectroscopy. Prerequisite: CHEM 1412. (4:3-3)

CHEM 2425 Organic Chemistry II (4005045203)

(Formerly Chemistry 244, 2414)

The second semester of introductory organic chemistry, including alkenes, alkynes, aromatic compounds, aldehydes, ketones, carboxylic acids and their derivatives, polycyclic and heterocyclic compounds, carbohydrates, amino acids and proteins. Prerequisite: CHEM 2423. (4:3-3)

Child Development and Family Studies

CDEC 1303 The Family and the Community (131210)

(Formerly CHID 1315)

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 lifestyles, child abuse, and current issues. (Credit will not be given for both CDEC 1303 and TECA 1303.) (3:3-0)

CDEC 1311 Introduction to Early Childhood Education (131210)

An introduction to the profession of early childhood education, focusing on developmentally appropriate practices, types of programs, historical perspectives, ethics, and current issues. (Note: Credit will not be given for both CDEC 1311 and TECA 1311.) (3:3-0)

CDEC 1318 Nutrition, Health and Safety (131210)

(Formerly CHID 2318)

A study of nutrition, health, and safety, including community health, universal health precautions, and legal implications. Practical applications of these principles in a variety of settings. (Note: Credit will not be given for both CDEC 1318 and TECA 1318.) (3:3-0)

CDEC 1319 Child Guidance (190709)

(Formerly CHID 1313)

An exploration of guidance strategies for promoting prosocial behaviors with individuals and groups of children. Emphasis on positive principles and techniques, family involvement and cultural influences. Practical application through direct participation with children. (3:3-1.5)

CDEC 1321 The Infant and Toddler (190709)

(Formerly CHID 2313)

A study of appropriate infant and toddler programs (birth to age 3), including an overview of development, quality routines, appropriate environments, materials and activities, and teaching/guidance techniques. (3:3-0)

CDEC 1323 Observation and Assessment (190709)

A study of child development observation, assessment skills and techniques (3:3-1.5)

CDEC 1354 Child Growth and Development (131210)

(Formerly CHID 1311)

A study of the principles of child growth and development from conception to adolescence. Focus on physical, cognitive, social, and emotional domains of development. (Note: Credit will not be given for both CDEC 1354 and TECA 1354.) (3:3-0)

CDEC 1356 Emergent Literacy for Early Childhood (190706)

(Formerly CHID 1314)

An exploration of principles, methods, and materials for teaching young children language and literacy through a play-based, integrated curriculum. (3:3-0)

CDEC 1359 Children With Special Needs (190709)

(Formerly CHID 2312)

A survey of information regarding children with special needs, including possible causes and characteristics of exceptionalities, intervention strategies, available resources, referral processes, and the advocacy role and legislative issues. (3:3-0)

CDEC 1413 Curriculum Resources for Early Childhood Programs (190709)

A study of the fundamentals of curriculum design and implementation in developmentally appropriate programs for young children. (4:3-3)

CDEC 1417 Child Development Associate Training I (190709)

(Formerly CHID 2611, CDEC 1517)

Based on the requirements for the Child Development Associate National Credential (CDA). Seven of the thirteen functional areas of study include creative, cognitive, physical, communication, family, program management, and professionalism. Topics on CDA overview, general observation skills, and child growth and development overview. Co-Requisite: CDEC 2164. (4:3-3)

CDEC 2407 Math and Science for Early Childhood (190709)

An exploration of principles, methods, and materials for teaching children math and science concepts through discovery and play. (4:3-3)

CDEC 1458 Creative Arts for Early Childhood (190709)

(Formerly CHID 1412)

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. (4:3-3)

CDEC 2164 Practicum in Child Development (190706)

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 for pay or no pay. This course may be repeated if topics and learning outcomes vary. Co-Requisite: CDEC 1417. (1:0-7)

CDEC 2165 Practicum in Child Development (190706)

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 for pay or no pay. This course may be repeated if topics and learning outcomes vary. Co-Requisite: CDEC 2422. (1:0-7)

CDEC 2304 Child Abuse and Neglect (190709)

Methods used in the identification of physical, emotional, and sexual abuse and neglect with an emphasis on developing skills for working with children and families. Includes methods of referral to public and private agencies that deal with investigation and treatment. (3:3-0)

CDEC 2315 Diverse Cultural/Multilingual Education (190709)

(Formerly CHID 1318, FMLD 1351)

An overview of multicultural education to include relationship with the family and community to develop awareness and sensitivity to diversity related to individual needs of children (3:3-0)

CDEC 2326 Administration of Programs for Children I (190708)

(Formerly CHID 2314)

A practical application of management procedures for early care and education programs, including a study of planning, operating, supervising, and evaluating programs. Topics on philosophy, types of programs, policies, fiscal management, regulations, staffing, evaluation, and communication will be included. (3:3-0)

CDEC 2328 Administration of Programs for Children II (190708)

(Formerly CHID 2316)

An in-depth study of the skills and techniques in managing early care and education programs, including legal, ethical issues, personnel management, team building,

leadership, conflict resolution, stress management, and advocacy, professionalism, fiscal analysis, planning parent education/partnerships, and technical applications in programs. (3:3-0)

CDEC 2336 Administration of Programs for Children III (190708)

An advanced study of the skills and techniques in managing early childcare education programs. Co-requisite: CDEC 2366. Prerequisite: Six hours of child development courses to include CDEC 2326 and CDEC 2328 or department chair approval. (3:3-0)

CDEC 2341 The School Age Child (190709)

(Formerly CHID 2310)

A study of the appropriate age programs for the school-age child (5-13 years), including an overview of development, appropriate environments, materials and activities, and teaching/guidance techniques. (3:3-0)

CDEC 2366 Practicum (or Field Experience)-Child Care Provider/Assistant (190709)

(Formerly CHID 2315, CDEC 2266)

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 to the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be for pay or no pay. This course may be repeated if topics and learning outcomes vary. Prerequisite or Co-requisite: CDEC 1319. (3:0-21)

CDEC 2422 Child Development Associate Training II (190709)

This course is based on the requirements for the Child Development Associate National Credential (CDA). Six of the thirteen functional areas of study include safety, health, learning environment, self, social, and guidance domains. Topics of CDA overview, general observation skills, and child growth and development overview. Co-Requisite: CDEC 2165. (4:3-3)

FMLD 1353 Marriage and Family Issues (190704)

(Formerly CHID 2311)

Exploration of the relationship between family values, structures, and types. Examines the functions of the family and the appropriate roles for caregivers. (3:3-0)

FMLD 1372 Dynamics of Human Relationships (420402)

(Formerly HOEC 1371)

A study of the fundamentals of human relationships, communication, and problem-solving skills. The factors of self-concept,

emotions, perceptions, defense mechanisms, and conflict resolution styles, as they pertain to the dynamics of human relationships within the family as well as the workplace, will be explored. (3:3-0)

TECA 1303 Family, School and Community (1301015209)

A study of the child, family, community, and schools, including parent education and involvement, family and community lifestyles, child abuse, and current family life issues. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. Course includes a minimum of 15 hours of field experience. (Note: Credit will not be given for both TECA 1303 and CDEC 1303.) (3:3-1)

TECA 1311 Educating Young Children (1312025109)

An introduction to the education of the young child, including developmentally appropriate practices and programs, theoretical and historical perspectives, ethical and professional responsibilities, and current issues. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. Course includes a minimum of 15 hours of field experience. (Note: Credit will not be given for both TECA 1311 and CDEC 1311.) (3:3-1)

TECA 1318 Wellness of the Young Child (1301015309)

A study of the factors that impact the well-being of the young child including healthy behavior, food, nutrition, fitness, and safety practices. Focus on local and national standards and legal implications of relevant policies and regulations. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. Course includes a minimum of 15 hours of field experiences. (Note: Credit will not be given for both TECA 1318 and CDEC 1318.) (3:3-1)

TECA 1354 Child Growth and Development (1312025209)

A study of the physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence. (Note: Credit will not be given for both TECA 1354 and CDEC 1354.) (3:3-0)

Communications

COMM 1129 Newspaper Laboratory (0904015426)

(Formerly Journalism 111-112, 1111)

First-year participation on a weekly newspaper. Required for COMM 2311 and 2315 students. Any student may register for laboratory only, with consent of the department chair. Course may be taken a maximum of two times for credit. Prerequisites: Reading Level 6 and Writing Level 6. (1:0-3)

COMM 1307 Mass Communications (0901025106)

(Formerly Journalism 132, 1312)

A freshman course in the development of the mass media in America, with emphasis on newspapers, magazines, radio and television; brief study of the historical development of the mass media and social, economic, and cultural responsibilities of the mass media. Prerequisite: Reading Level 7. (3:3-0)

COMM 1318 Beginning Photography (5006055126)

(Formerly Journalism 131, 1311)

A beginning course in the taking, developing and printing of photographs. Students receive instruction in photographic principles and are given assignments to complete in the laboratory period or outside class. Darkroom facilities and a limited number of cameras are furnished by the College. Students will not receive credit for both ARTS 2356 and COMM 1318. (3:1-5)

COMM 1319 Intermediate Photography (5006055226)

(Formerly Journalism 133, 1313)

A continuous development of techniques, with emphasis on content and composition of photographs, including experience in a variety of professional and technical areas. Students will not receive credit for both ARTS 2357 and COMM 1319. Prerequisite: COMM 1318 or ARTS 2356 or approval of department or division chair. (3:1-5)

COMM 2129

(0904015406)

(Formerly Journalism 211, 212, 2111)

Second-year participation on a weekly newspaper. Course may be taken a maximum of two times for credit. Prerequisites: Reading Level 6 and Writing Level 6. (1:0-3)

COMM 2309 Editing I (0904015306)

(Formerly Journalism 233, 2313)

Fundamentals of copy editing for newspapers, including copy reading, headline writing and makeup. Studies in news value, story organization, clarity of writing and style, and typography as related to makeup. Prerequisites: COMM 2311 or consent of department chair, Reading Level 7, and Writing Level 7. (3:2-3)

COMM 2311 Reporting I (0904015706)

(Formerly Journalism 231, 2311)

Instruction and practice in interviewing and writing, and discussion of news sources, news values, and types of news stories. Concurrent registration for a newspaper laboratory required. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

COMM 2315 Reporting II (0904015806)

(Formerly Journalism 232, 2312)

Specialized fields of reporting: feature writing, governmental and political reporting, courtroom reporting, radio and television, and analytical writing. The class works on special feature and analytical projects. Concurrent registration for a newspaper laboratory required. Prerequisites: COMM 2311, Reading Level 7, and Writing Level 7. (3:3-0)

COMM 2327 Principles of Advertising (0909035106)

(Formerly Journalism 235, 2315)

The fundamentals of advertising. Special attention to advertising techniques for the mass media; copy preparation; headlines; and use of art work and layout theories of newspaper and magazine advertising, direct mail, radio and television, outdoor and other types of advertising. Prerequisite: Reading Level 7. (3:3-0)

The San Jacinto College Newspaper

All aspects of newspaper production are considered in the publication of the College weekly newspaper: reporting, feature writing, editing, headline writing, photography, advertising, layout and design. Students do all production work necessary for a newspaper except the press operation. Member of the Texas Community College Journalism Association, Texas Intercollegiate Press Association, and the Associated Collegiate Press. Registration in COMM 1129 or COMM 2129 is necessary for newspaper participation.

Computer Information Systems

(See also Computer Science)

EDTC 1341 Instructional Technology and Computer Applications (131321)

(Formerly CSCI 2311)

This course focuses on the examination of specialized educational technology. It is a course in specialized computer utilization for educators. Topics include the integrations of educational computer terminology, system operations, software, and multimedia in the contemporary classroom environment. (3:2-2)

IMED 1341 2-D Interface Design (110801)

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. (3:2-2)

IMED 1345 Interactive Multimedia (110801)

Exploration of the use of graphics and sound to create interactive multimedia animations using industry-standard authoring software. Prerequisite: ITSE 1305. (3:2-2)

IMED 2309 Internet Commerce (520208)

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. Prerequisite: ITSE 1305 or department chair approval. (3:2-2)

INEW 2301 Macros for Applications (110201)

A study of macros used for applications. Topics include analysis of the need for macros in various applications, macro design considerations, and macro coding and implementation. Write macro code using available tools for rapid development; customize existing macros for special use, and create and enhance the applications user interface. Prerequisite: ITSE 1301 or ITSE 1307. (3:2-2)

INEW 2330 Computer Software Project I: Plan and Design (110101)

A comprehensive application of skills learning in previous courses in a simulated workplace. Covers the development, testing, and documenting of a complete software and/or hardware solution. Analyze and design a solution for a business problem using computer resources; demonstrate the

ability to function as a successful part of a programming team; demonstrate the ability to properly document the project; demonstrate the knowledge and skills to function competently as an entry-level programmer or software engineer on the job (design). Prerequisite: ITSE 2340 (3:2-2)

INEW 2332 Comprehensive Software Project II: Coding, Testing and Implementation (110101)

A comprehensive application of skills learned in previous semester in a simulated workplace. This course covers coding, testing, and documentation of a complete software and/or hardware solution. (3:2-2)

INEW 2340 Object-Oriented Design (110201)

Further applications of programming techniques. Includes system analysis and design concepts from the object-oriented perspective. Students will build/use case models, sequence diagrams, class diagrams and state charts. Topics will include determining what objects will be required, what members an object requires, and relationships between objects. It also includes an in-depth look at various data structures and the operations performed on them. Develop correct, well-documented programs containing complex data structures; incorporate arrays, records, stacks, queues, lists, and trees; and use searching, sorting, traversal, and recursion techniques. Prerequisite: ITSE 1302, or Prerequisite or Co-Requirement: ITSE 1307. (3:2-2)

ITCC 1402 CCNA 1: Networking Basics (111002)

(Formerly ITNW 1392, 1313, ITCC 1302)

A course introducing the basics of networking including network terminology, local area networks (LAN) and wide area networks (WAN). This course develops skills in the design and installation of local area networks to ensure optimal network performance. Topics include cabling, cable closets, management devices, and installation of network devices, protocols and subnetting. This course includes an overview of networking technologies and an in-depth study of networking technologies, including IP addressing and sub-networking. This course will help prepare the student for the CISCO Certified Network Associate (CCNA) exam. Prerequisite: ITSE 1305 or department chair approval. (4:3-2)

ITCC 1406 CCNA 2: Router and Routing Basics (111002)

(Formerly ITNW 1392, 1317, ITCC 1306)

This course introduces CISCO Basic router configurations for local area networks. Topics include initial router configuration for TCP/IP, management of Cisco IOS and router configuration files, Backup of router

configuration files, routing protocols, access control lists, and the use of security features. This course helps prepare the student for the Cisco Certified Network Associate (CCNA) exam. Prerequisite: ITCC 1402 or department chair approval. (4:3-2)

ITCC 1442 CCNA 3: Switching Basic and Intermediate Routing (111002)

(Formerly ITNW 1340, ITCC 1342)

A course focusing on advanced topics including IP addressing techniques, intermediate routing protocols, CLI configuration of switches, Ethernet switching, VLANs, Spanning Tree Protocol, and VLAN Trunking Protocol. This course includes skill development in managing traffic on local area network (LAN) and in the management of network devices for LANs. This course includes configuring router for IPX protocol, and filtering traffic in the IPX environment, as well as identifying and resolving network congestion problems. This course helps prepare the student for the Cisco Certified Network Associate (CCNA) exam. Prerequisite: ITCC 1406 or department chair approval. (4:3-2)

ITCC 1446 CCNA 4: WAN Technologies (111002)

(Formerly ITNW 1344, ITCC 1346)

This course provides an introduction to wide area networking (WAN) services and management. This course focuses on advanced IP addressing techniques (Network Address Translation [NAT], Port Address Translation [PAT], and DHCP), WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management and introduction to optical networking. In addition this course helps prepare the student for the Cisco Certified Network Associate (CCNA) exam. Prerequisite: ITCC 1442 or department chair approval. (4:3-2)

ITCC 2432 CCNA 5: Advanced Routing (111002)

(Formerly ITCC 2332)

This course is a study of advanced network development issues and methods used to configure Cisco routers for effective LAN and WAN traffic management. Topics include designing scalable Internet works, managing traffic access for IP and IPX/SPX, configuring OSPF in single and multiple areas, configuring EIGRP, and configuring and using interior and border gateway routing protocols. Prerequisite: ITCC 1442 or department chair approval. (4:3-3)

ITCC 2436 CCNA 6: Remote Access (111002)

(Formerly ITCC 2336)

This course includes the designing and building of remote access networks using Cisco products. Topics include assembling and cabling WAN components, configuring network connections via asynchronous modems, ISDN, X.25, and frame relay architectures and associated protocols. This course will help prepare the student for the Cisco Certified Network Associate (CCNP) exam. Prerequisite: ITCC 2432 or department chair approval. (4:3-3)

ITCC 2440 CCNA 7: Multilayer Switching (111002)

(Formerly ITCC 2340)

An introduction to Cisco switches and how to use Cisco switches effectively in networks. Topics include switching concepts, virtual LANS, switch architecture (hardware and software), switch configuration, management and troubleshooting. This course helps prepare the student for the Cisco Certified Network Associate (CCNP) exam. Prerequisite: ITCC 2436 or department chair approval. (4:3-3)

ITCC 2444 CCNA 8: Network Troubleshooting (111002)

(Formerly ITCC 2344)

A study of troubleshooting methods for internet works. Topics include Cisco troubleshooting tools, diagnosing and correcting problems with TCP/IP, Novell, and AppleTalk networks, and with Frame Relay and ISDN network connections. This course helps prepare the student for the Cisco Certified Network Associate (CCNP) exam. Prerequisite: ITCC 2440 or department chair approval. (4:3-3)

ITMC 1301 MS Windows Network Operating System Essentials (110901)

(Formerly CSCI 1341, ITNW 1321)

This course will introduce the student to the fundamentals and terminology of networks. Topics include accessing and using Internet networking hardware and software, including current developments in networking. Also included will be the study of security, cabling, topology, OSI Model, and networking technologies as they apply the Microsoft Windows. The students will gain experience installing, configuring and maintaining Windows Software. Prerequisite or Co-Requirement: ITSC 1305 or department chair approval. (3:3-1)

ITMC 1319 Installing and Administering MS Windows Server Operating Systems (110901)

An introduction to Microsoft® Windows server operating system in a single domain environment. Topics include basic installation, configuration tasks, and day-to-day administration tasks in a Windows-based network. Skill development for customizing, configuring, supporting and troubleshooting Windows networks. Prerequisite: ITMC 1358 or department chair approval. (3:2-2)

ITMC 1342 Implementing a Microsoft Windows Network Structure (110901)

(Formerly CSCI 2353, ITNW 2321)

Skills development in installing, configuring, managing, and supporting a network infrastructure that uses the Microsoft Windows server family of products. This course will provide the student with the knowledge necessary to install, configure, manage, monitor and troubleshoot a network infrastructure that supports RAS and uses Microsoft/Windows server family products. Prerequisite: ITMC 1358 or department chair approval. (3:2-2)

ITMC 1343 Implementing and Administering Microsoft Directory Services (110901)

(Formerly ITNW 2356)

Provides students with the knowledge and skills necessary to install, configure and administer Microsoft Windows Active Directory services. The course focuses on implementing Group Policy Objects, understanding the Group Policy tasks required to centrally manage users and computers, and deploying software by using group policies. This course also provides the student with experience in managing and troubleshooting software using group policies. Prerequisite: ITMC 1319 or department chair approval. (3:2-2)

ITMC 1358 Supporting Microsoft Windows Client Network Operating Systems (110901)

Skill development for customizing, configuring, and troubleshooting Windows. An introduction to Microsoft Windows client operating systems in a single domain environment. Topics include basic installation, configuration tasks, and day-to-day administrative tasks in a Windows-based network. This course provides skill development for customizing, configuring, supporting, and troubleshooting Windows-based networks. Prerequisite: ITMC 1301 or department chair approval (3:2-2)

ITMC 2303 Administering a Microsoft SQL Server Database (110901)

In-depth coverage of the knowledge and skills required to install, configure, administer, and troubleshoot the client-server database management system of Microsoft SQL Server databases. Prerequisite: ITSW 2337 or ITSE 1345. (3:2-2).

ITMC 2304 Implementing and Managing Microsoft Exchange (110901)

In-depth coverage of the knowledge and skills required to install and administer Microsoft Exchange. Prerequisite: ITMC 1319 or department chair approval. (3:2-2)

ITMC 2331 Designing a Microsoft Windows Directory Services Infrastructure (110901)

This course provides Microsoft senior support professionals and network architects with the knowledge and skills necessary to design a Microsoft Windows directory services infrastructure. Strategies are presented to assist the student in identifying the information technology needs of the organization. Students are presented advanced concepts in the knowledge and skills necessary to design a Microsoft Windows directory services infrastructure. Strategies are presented to assist the student in identifying the information technology needs of the organization and to designing the Active Directory structure that needs those needs. Prerequisite: ITMC 1343 (3:2-2).

ITMC 2333 Designing a Secure Microsoft Windows Network (110901)

Provides students with the knowledge and skills necessary to design a security framework for small, medium, and enterprise networks by using Microsoft Windows networking technologies. Prerequisite: ITMC 2331 (3:2-2).

ITMC 2337 Programming a Microsoft SQL Server Database (110802)

Mastering Programming and implementing a database solution by using SQL Server. Topics include designing an SQL Server application, describe transact-SQL, create and manage databases, implement data integrity, optimize query performance, create and maintain indexes. Prerequisite: ITMC 2303 or department chair approval. (3:2-2)

ITMC 2355 Deploying and Management Microsoft Internet Security and Acceleration Server (111003)

Advanced concepts of deploying and managing the Microsoft Internet Security and Acceleration (ISA). Server in an enterprise environment. Prerequisite: ITMC 2331 (3:2-2)

ITNW 1325 Fundamentals of Networking Technologies (110901)

(Formerly ITMC 1301, ITNW 1333)
Instruction in networking essential concepts including networking technologies and their implementation. Topics include: Network fundamentals and terminology, the OSI reference model, network protocols, transmission media, and networking hardware and software, identifying media used in network communication, distinguish among them, determine how to connect servers and clients in a network, recognize the primary network architectures/topologies, accessing and using internet networking hardware and software, identifying major characteristics, and determine which would be most appropriate for a proposed network; determine how to implement and support the major networking components, including the server, operating system, and clients; distinguish between Local Area Networks (LANs) and Wide Area Networks (WANs) and identify the components used to expand a LAN into a WAN; and determine how to implement connectivity devices in the larger LAN/WAN environment, the OSI reference model, network protocols, current developments in networking, the study of security, and networking technologies as they apply to current Microsoft Windows Operating Systems. The students will gain experience installing, configuring and maintaining current Windows Operating Systems. Prerequisite or Co-Requisite: ITSC 1305 or Department chair approval (3:2-2)

ITNW 1333 Microsoft Networking Essentials (110901)

(Not offered after Summer 2006 [200630])
Instruction in networking essential concepts including Network fundamentals and terminology. Topics include: identifying media used in network communications, distinguish among them, and determine how to connect servers and clients in a network, recognize the primary network architectures/topologies, accessing and using internet networking hardware and software, identify major characteristics, and determine which would be most appropriate for a proposed network; determine how to implement and support the major networking components, including the server operating system, and clients; distinguish between Local Area Networks (LANs) and Wide Area Networks (WANs) and identify the components used to expand a LAN into a WAN; and determine how to implement connectivity devices in the larger LAN/WAN environment, the OSI reference model, network protocols, current develop-

ments in networking, the study of security, and networking technologies as they apply to current Microsoft Windows Operating Systems. The students will gain experience installing, configuring and maintaining current Windows Operating System Software. Prerequisite or Co-Requisite: ITSC 1305 or Department Chair approval (3:3-1)

ITNW 1345 Implementing Network Directory Services (110901)

This course provides students with the knowledge and skills necessary to install, configure, and administer Microsoft Windows 2000 Active Directory services. The course focuses on Implementing Group Policy Objects, deploying software by using group policies, configure Domain Name System (DNS) to manage name resolution, schema and replication, use of Active Directory to manage users, groups, shared folders, and network resources, Implement and troubleshoot security in a directory services Infrastructure and monitor and optimize Active Directory performance. This course also provides the student with experience in managing and troubleshooting software using group policies. Prerequisite: ITNW 1354 or ITMC 1319 or Department Chair approval (3:2-2)

ITNW 1346 Microsoft Exchange Server- Concepts and Administration (110901)

This course provides the student with the knowledge and skills necessary to install, configure and administer Microsoft Windows Active Directory services. The course focuses on implementing Group Policy Objects, deploying software by using group policies, configure Domain Name System (DNS) to manage name resolution, schema and replication, use of Active Directory to manage users, groups, shared folders, and network resources, implement and troubleshoot security in a directory services infrastructure and monitor and optimize Active Directory performance. This course also provides the student with experience in managing and troubleshooting software using group policies. Prerequisite: ITNW 1354 or ITMC 1319 or Department Chair approval (3:2-2).

ITNW 1348 Implementing and Supporting Client Operating Systems (110901)

This course is designed to provide students with the knowledge and skills for implementing and supporting client operating systems. Topics include: configuring network clients, manage users and groups, policies, protocols, services, and profiles. Students will configure the windows environment using Control Panel and Registry Editor,

plan and implement Active Directory in a single tree environment. Implement dial-up networking, and configure a remote access server and client. Configure hardware components and applications, and configure clients in multiple environments including Microsoft®, TCP/IP, and Novell networks. Prerequisite: ITNW 1333 or ITMC 1301 or department chair approval (3:2-2)

ITNW 1353 Supporting Network Server Infrastructure (110901)

This course provides the student with skills development necessary to install, configure, manage, monitor, support, and troubleshoot a network infrastructure that uses the Microsoft Windows server family of products such as DHCP, DNS, Certificates, DNS, Routing protocols, L2TP, DHCP, NAT, configuring security using Public Key, and deployment of Windows using remote installation services. Prerequisite: ITNW 1354 or ITMC 1319 or department chair approval. (3:2-2)

ITNW 1354 Implementing and Supporting Servers (110901)

A course in the development of skills necessary to implement, administer, and troubleshoot information systems that incorporate Windows Based Servers in a networked computing environment. Topics include setting up servers for various client computers, configure directory replication, manage licensing, user group accounts, user profiles, system policies, and profiles, administer remote server, disk resources, create and share resources, implement permissions and security, fault-tolerance, install and configure RAS, identify, monitor, and resolve performance bottlenecks and configuration problems. Prerequisite: ITNW 1348 or ITMC 1358 or department chair approval (3:2-2)

ITNW 1392 Special Topics in Computer Systems Networking and Telecommunications (110901)

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. Prerequisite: department chair approval. (3:2-2)

ITNW 2305 Network Administration (111001) (Formerly CSCI 2341)

Preparation to effectively manage a Novell NetWare network. Topics include network components, user accounts and groups, network file systems, file system security, network printing, and administration utilities. Prerequisite: ITNW 1325 or ITMC 1301 or department chair approval (3:2-2)

ITNW 2346 Designing a Secure Network (110901)

Provides students with the knowledge and skills necessary to design a security framework for small, medium, and enterprise networks by using Microsoft Windows networking technologies. (3:2-2)

ITNW 2353 Supporting Proxy Services (110901)

An introduction to Network Proxy Services including installation, configuration, and troubleshooting Basic architecture, controlling Internet access, administration, configuring the cache, and methods of improving performance. (3:2-2)

ITNW 2354 Internet/Intranet Server (110901) (Formerly CSCI 2334)

Hands-on experience in designing, installing, configuring, maintaining, and managing an Internet server. Topics include workstation maintenance and Internet-related protocols; implementation of Internet servers such as World Wide Web (WWW), file transfer protocols (FTP), new, mail and gopher. Prerequisites: ITNW 1325 or ITCC 1402 or ITMC 1301 or department chair approval. (3:2-2)

ITNW 2355 Administering Microsoft SQL Server (110901)

Administering SQL Server is a skills development course in the installation, configuration, administration, and troubleshooting of SQL Servers, client/server database management system version. Topics include options for automating the setup process, create custom administrative tools, automate administrative tasks using SQL Server Agent; examine the utilities packages, configure database options, physical drive configurations and storage locations, create and manage objects, enforce and manage security, choose a login security method and configure login security, create and manage logons, database users, plan and implement database permissions, backup and restore databases, configure, maintain and troubleshoot log shipping, transfer and migrate data into databases, develop and manage Data Transformation Services (DTS) and monitor SQL Server performance. Topics will include file and database management; material on SQL Server and Windows operating systems. Prerequisite: ITSW 2337 or ITSE 1345 or department chair approval. (3:2-2)

ITNW 2356 Designing Network Directory Infrastructure Servers (110901)

Design, implement, and support network operating system, server directory infrastructure. Prerequisite: ITNW 2355. (3:2-2)

ITNW 2371 Network Design and Documents (521204)

This course provides vendor independent, advanced information on designing and implementing network systems for small- to medium-sized businesses. Topics include topology design, hardware and media selection, security, strategies for scalability, and documentation. Skills learned will culminate in a large design project. Prerequisite: ITNW 2305 ITNW 1354 or ITMC 1319 or department chair approval. (3:3-0)

ITSC 1301 Introduction to Computers (110101)

(Formerly CSCI 1311)

Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. Explores integration and application in business and other segments in society. Fundamentals of computer problem solving and programming may be discussed and applied. Examines applications and software relating to specific curricular area. (3:3-0)

ITSC 1305 Introduction to PC Operating Systems (110101)

(Formerly CSCI 1323)

A study of personal computer operating systems. Topics include installation and configuration, file management, memory and storage management, control of peripheral devices, and use of utilities. Operating systems include DOS, Windows and UNIX. Prerequisite or Co-Requisite: ITSC 1309 or equivalent knowledge. (3:2-2)

ITSC 1307 UNIX Operating System I (110101)

(Formerly ITSW 1306)

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. Prerequisite: ITSC 1305 or department chair approval. (3:2-2)

ITSC 1309 Integrated Software Applications I (110101)

(Formerly CSCI 1321)

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. Fundamentals of personal computer operations and the Windows operating system will be covered. (3:2-2)

ITSC 1313 Internet/Web Page Development (110801)

(Not offered after Summer 2006 [200630])

Instruction in the use of Internet services and the fundamentals of web page design and web site development. Prerequisite: ITSE 1329, or department chair approval. (3:2-2)

ITSC 1321 Intermediate PC Operating Systems (110101)

(Formerly CSCI 2338)

Introduction to windows-based microcomputer operating systems. Topics include installation and configuration, file management, memory and storage management, continued study in advanced installation, configuration troubleshooting, advanced file management, memory, storage management, update peripheral device drivers, and use of utilities to increase system performance. This will extend the student's knowledge of hardware, systems and application software, data integration and communications, thus enabling students to become a resource of support for themselves or their business organization. Prerequisite: ITSC 1325 or department chair approval. (3:2-2)

ITSC 1325 Personal Computer Hardware (110101)

(Formerly CSCI 1338)

A study of current personal computer hardware, including personal computer assembly and upgrading, setup and configuration, and troubleshooting. Major topics include an overview of the computer system, installing and configuring hardware and software, troubleshooting hardware and software problems, management of the computer's resources (including hard drive space and memory) data storage on hard drives and floppy disks, data recovery methods, and installing peripheral equipment. Prerequisite: ITSC 1305 or department chair approval. (3:2-2)

ITSC 1391 Special Topics in Computer and Informational Sciences, General (110101)

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. Prerequisite: department chair approval. (3:2-2)

ITSC 2321 Integrated Software Applications II (110101)

(Formerly ITSC 2341)

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. Prerequisite: ITSC 1309 or department chair approval. (3:2-2)

ITSC 2335 Application Problem Solving (110101)

(Formerly CSCI 2336)

Utilization of current application software to solve advanced problems and generate customized solutions, involving projects and software specific to a specific curricular area. Prerequisite: ITSE 2331, ITSE 2349, ITSE 2302 or ITSE 2317 (2317 and ITSE 1331 may also be taken as Co-Requisites), or department chair approval. (3:2-2)

ITSC 2337 UNIX Operating System II (110101)

(Formerly CSCI 2344, ITSW 2336)

Advanced study of the UNIX operating system. Includes advanced concepts of system management and communication, the installation and maintenance of software, network security, and data integrity issues. Prerequisite: ITSC 1307 or department chair approval. (3:2-2)

ITSC 2339 Personal Computer Help Desk (110101)

Diagnosis and solution of user hardware and software related problems with on-the-job projects. Participate in the construction of an expert system. Prerequisite: ITSC 2321. (3:2-2)

ITSC 2386 Internship-Computer and Information Sciences, General (110101)

(Formerly CSCI 2340)

This is 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. This is an experience external to the College for an advanced student in a specialized field involving a written agreement between the educational institution and 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. Prerequisite: 15 credit hours of computer courses (9 of these credit hours must be earned at San Jacinto College) which must include one of the following courses: ITSE 2351, ITSE 2349, ITSE 2331, ITSW 2334, ITSW 2337, ITNW 2305, ITNW 1354, ITMC 1319, ITCC 1406, or ITSE 2313. An accumulative GPA of at least 2.0 is required. An interview and department chair approval are required 60 days prior to enrollment. (3:0-16)

ITSE 1302 Computer Programming (110201)

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. Use structured programming techniques; develop correct executable programs; and create appropriate documentation. (3:2-2)

ITSE 1305 Web Authoring and Publishing (110801)

The course includes instruction in the use of Internet services and the fundamentals of web page design and web site development. It is an introduction to designing and publishing Web documents. It includes basic markup language, hyperlinks, tables, frames, images, and forms. Exploration of tools available for creating and editing Web Documents. Prerequisite: ITSE 1329 or department chair approval. (3:2-2)

ITSE 1307 Introduction to C++ Programming (110201)

(Formerly CSCI 2315)

Introduction to computer programming using C++. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. Since C++ is based on the C language, the course will also cover some C language functions and techniques. Students will learn/use standard C++ to complete assignments which give experience in coding, testing, and debugging applications. Prerequisite: ITSE 1331 or department chair approval. (3:2-2)

ITSE 1310 Pascal Programming (110201)

(Formerly CSCI 1325)

(Not offered after Summer 2006 [200630])

Introduction to computer programming using Pascal. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. Programs are assigned to give the student experience in the semantics of Pascal and implementation of structured design. Topics will include the use of procedures, structured loops and decisions, functions, text files and arrays. Prerequisites or Co-Requisite: ITSE 1329 or department chair approval. (3:2-2)

ITSE 1318 Introduction to COBOL Programming (110201)

(Formerly CSCI 1326)

Introduction to computer programming using COBOL. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, files, editing, and an introduction to tables. Prerequisite: ITSE 1329 or department chair approval. (3:2-2)

ITSE 1329 Programming Logic and Design (110201)

(Formerly CSCI 1312)

A disciplined approach to problem solving with structured techniques and representation of algorithms using appropriate design tools such as hierarchy charts, flowcharts, and pseudocode. Discussion of methods for testing, evaluating, and documenting programs. (3:3-0)

ITSE 1331 Introduction to Visual BASIC Programming (110201)

(Formerly CSCI 1328)

Introduction to computer programming using Visual BASIC. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. Sequence, branch, and loop control structures; use of sequential files; interactive screen processing; printed report generation; and event driven programming are also covered. Prerequisite or Co-Requisite: ITSE 1329 or department chair approval. (3:2-2)

ITSE 1345 Introduction to Oracle SQL (110201)

(Formerly ITSE 1350)

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). Prerequisite or Co-Requisite: ITSW 2337. (3:2-2)

ITSE 1391 Special Topics in Computer Programming (110201)

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. Prerequisite: department chair approval. (3:2-2)

ITSE 2305 Windows Programming (110201)

Introduction to computer programming for Windows. Emphasis on the fundamentals of structured design, development, test-

ing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. Prerequisites: ITSE 1331. (3:2-2)

ITSE 2309 Database Programming (110802)

This is a course in database development using database programming techniques emphasizing database structures, modeling and database access. Topics include developing database applications using a structured query languages (SQL Server) to design SQL Server application, Architecture, describe Transact-SQL, create and manage databases, implement data integrity, create queries and reports from database tables, optimize query performance, create and maintain indexes, and create appropriate documentation. Prerequisite: ITSW 2337 or department chair approval. (3:2-2)

ITSE 2313 Web Authoring (110801)

Instruction in designing and developing web pages that incorporate text, graphics, and other supporting elements using current technologies and authoring tools. Prerequisite: ITSC 1313 or department chair approval. (3:2-2)

ITSE 2317 Java Programming (110201)

Introduction to Java programming with object-orientation. Emphasis on the fundamental syntax and semantics of JAVA for applications and web applets. Prerequisite: ITSE 1307 or department chair approval. (3:2-2)

ITSE 2331 Advanced C++ Programming (110201)

(Formerly CSCI 2355)

Further application of C++ programming techniques, including subjects such as file access, abstract data structures, class inheritance and other advanced techniques. Students will study Object Oriented Programs (OOP) by using, creating and modifying C++ classes. In addition, they will use many of the standard built-in C++ classes and data structures to solve programming assignments. Prerequisite: ITSE 1307 or department chair approval. (3:2-2)

ITSE 2343 Advanced Windows Programming (110201)

Develop correct, well documented programs containing complex data structures; incorporate complex input/output and file handling techniques; develop graphical user interfaces to other applications; and integrated external programs and libraries. Prerequisite: ITSE 2305. (3:2-2)

ITSE 2345 Data Structures (110201)

Further applications of programming techniques. Includes an in-depth look at various data structures and the operations performed on them. Develop correct, well-documented programs containing complex data structures; incorporate arrays, records, stacks, queues, lists, and trees, and use searching, sorting, traversal, and recursion techniques. Prerequisite: ITSE 1302, or Prerequisite or Co-Requisite: ITSE 1307. (3:2-2)

ITSE 2346 Oracle Application I (110802)

This course provides skill development in the use of Forms in a Developer environment. Topics include the use of Object Navigator and Virtual Graphics System (VGS), Layout Editor, and Menu Options. Prerequisite: ITSE 1345 or department chair approval. (3:2-2)

ITSE 2349 Advanced Visual BASIC Programming (110201)

(Formerly CSCI 2317)

Further applications of programming techniques using Visual BASIC. Topics include file access methods, data structures and modular programming, program testing and documentation. Topics include common Graphical User Interface controls, sequential/random file processing, and database processing, and formatted screen/printer output. Prerequisite: ITSE 1331 or department chair approval. (3:2-2)

ITSE 2351 Advanced COBOL Programming (110201)

(Formerly CSCI 2318)

Further applications of programming techniques using COBOL, including file access methods, data structures and modular programming, program testing and documentation. Assigned programs will include subscripted tables, sorting, loading and updating files, maintenance programming, and linked lists. Prerequisite: ITSE 1318 or department chair approval. (3:2-2)

ITSE 2354 Advanced Oracle PL/SQL (110802)

This course is a continuation of Oracle SQL. Topics include hierarchical queries, set based queries, correlated subqueries, scripting, and scripting generation. Prerequisite: ITSE 1345 or department chair approval. (3:2-2)

ITSE 2357 Advanced Object-Oriented Programming (110201)

Application of advanced object-oriented programming techniques such as abstract data structures, class inheritance, virtual functions, and exception handling. Prerequisite: ITSE 2305. (3:2-2)

ITSW 2334 Advanced Spreadsheets (110301) (Formerly CSCI 2321)

Designed to provide an understanding of advanced functionality of electronic spreadsheets. Topics covered include data entry, graphics, table building and searching, macro development, customized reports, database administration, and statistical analysis. Prerequisite: ITSC 1309 or department chair approval. (3:2-2)

ITSW 2337 Advanced Database (110802) (Formerly CSCI 2333)

Designed to provide an understanding of advanced functionality of databases, including physical representation, design criteria, and application implementation. A data control language is used in the implementation of database processing applications. Programs written will include report generation, multiple file management, relational database management, on-line screen generation, and menu-driven systems. Prerequisite: ITSC 1309 or department chair approval. (3:2-2)

ITSY 1300 Fundamentals of Information Security (111003)

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 counter measures are addressed. The importance of appropriate planning and administrative controls are also discussed. (3:3-0)

ITSY 1342 Information Technology Security (111003)

Instruction in security for network hardware, software, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses. Prerequisite: ITNW 1325 or ITCC 1402 or department chair approval (3:2-2)

ITSY 2300 Operating System Security (111003)

Safeguard computer operating systems by demonstrating server support skills and designing and implementing a security system. Identify security threats and monitor network security implementations. Use best practices to configure operating systems to industry security standards. Prerequisite or Co-Requisite: ITSY 1342. (3:2-2)

ITSY 2301 Firewalls and Network Security (111003)

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 any ongoing network security issues. Prerequisite: ITSY 1342. (3:2-2)

ITSY 2341 Security Management Practices (111003)

In-depth coverage of security management practices, including asset evaluation and risk management; cyber law and ethics issues; policies and procedures; business recovery and business continuity planning; network security design; and developing and maintaining a security plan. Prerequisites: ITSY 2300 and ITSY 2301. (3:2-2)

ITSY 2342 Incident Response and Handling (111003)

In-depth coverage of incident response and incident handling, including identifying sources of attacks and security breaches; analyzing security logs; recovering the system to normal; performing postmortem analysis; and implementing and modifying security measures. Prerequisites: ITSY 2300 and ITSY 2301. (3:2-2)

ITSY 2343 Computer System Forensics (111003)

In-depth study of system forensics including methodologies used for analysis of computer security breaches. Gather and evaluate evidence to perform postmortem analysis of a security breach. Prerequisite or Co-Requisite: ITSY 1342. (3:2-2)

ITSY 2359 Security Assessment and Auditing (111003)

Capstone experience for the security curriculum. Synthesizes technical material covered in prior courses to monitor, audit, analyze, and revise computer and network security systems to ensure appropriate levels of protection are in place. (3:2-2)

Computer Science

(See also Computer Information Systems)

COSC 1336 Programming Fundamentals I

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. Prerequisite or Co-Requisite: MATH 1314 and Prerequisite: Reading Level 7. (3:3-0)

COSC 1337 Programming Fundamentals II

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. Prerequisite: COSC 1336. (3:3-0)

COSC 2336 Programming Fundamentals III

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. Prerequisite: COSC 1337. (3:3-0)

COSC 2325 Digital Computer Architecture and Programming (1102015407)

Basic computer organization; machine cycle, digital representation of data and instructions; assembly language programming, assembler, loader, macros, subroutines, and program linkages. Prerequisite: COSC 1336. (3:3-0)

Construction Technology

Credit Courses

CNBT 1305 Residential and Light Commercial Blueprint Reading (460401)

(Not offered after Spring 2004 [200420])
(Formerly CONT 1314)

Blueprint reading covering the theory of projection, architectural and engineering symbols, relationship of views, and measuring with emphasis on residential and light commercial construction. (3:3-0)

CNBT 1371 Construction Computer Applications (460401)

(Not offered after Spring 2004 [200420])
(Formerly CONT 2311)

An introduction to the microcomputer and microcomputer software used in the construction industry. (3:2-2)

CNBT 1402 Mechanical, Plumbing, and Electrical Systems in Construction (460401)

(Not offered after Spring 2004 [200420])
(Formerly CONT 1512)

A presentation of the basic mechanical, plumbing, and electrical components in construction and their relationship to the overall building. (4:4-0)

CNBT 1411 Construction Methods and Materials (460401)

(Not offered after Spring 2004 [200420])
(Formerly CONT 2511, CONT 2514, CONT 2516)

An introduction to construction materials and methods and their applications. (4:4-0)

CNBT 1416 Construction Technology I (460401)

(Not offered after Spring 2004 [200420])
(Formerly CONT 1415, CONT 1511, CONT 1514)

A comprehensive course in site preparation, foundation, form work, and framing. Topics include safety; tools and equipment; basic site preparation; basic foundations and form work; and basic floor, wall, and framing methods and systems. (4:3-3)

CNBT 2335 Computer Aided Construction Scheduling (460401)

(Not offered after Spring 2004 [200420])
(Formerly CONT 2412)

Advanced construction scheduling utilizing computer scheduling software to perform various scheduling procedures. Prerequisite CNBT 1371 or department approval. (3:2-2)

CNBT 2344 Construction Management (460401)

(Not offered after Spring 2004 [200420])
(Formerly CONT 2313)

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. (3:3-0)

CNBT 2366 Supervised Work Experience (460401)

(Not offered after Spring 2004 [200420])
(Formerly CONT 2315)

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. (3:0-21)

CNBT 2437 Construction Estimating (460401)

(Not offered after Spring 2004 [200420])
(Formerly CONT 2413)

Advanced estimating concepts using computer software programs for the construction and crafts. Prerequisites: CNBT 1305, CNBT 1371, and CNBT 1416 or department approval. (4:4-0)

CNBT 2446 Construction Management-Cost Control (460401)

(Not offered after Spring 2004 [200420])
(Formerly CONT 2316)

An advanced course in cost analysis, construction safety, project management, scheduling, material handling, layout, payment scheduling, and inspection. (4:4-0)

WDWK 1513 Cabinet Making (480703)

(Not offered after Spring 2004 [200420])
(Formerly CONT 2513)

Includes the 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, and staining. (5:3-5)

WDWK 2551 Cabinet Making II (480703)

(Not offered after Spring 2004 [200420])
(Formerly CONT 2515)

Advanced skills in machine woodworking and hand craftsmanship. Emphasizes advanced design, door and drawer construction, laminate laying and customer co-worker relations. Prerequisite: WDWK 1513. (5:3-5)

Non-Credit Continuing Education Courses

CNBT 1016 Construction Technology I

(Continuing Education Course)

A comprehensive course in site preparation, foundation, form work, and framing. Topics include safety; tools and equipment; basic site preparation; basic foundations and form work; and basic floor, wall and framing methods and systems. (128 contact hours)

CNBT 1050 Construction Technology II

(Continuing Education Course)

An intermediate course in site preparation, foundation, form work, and framing in residential and light construction. Topics include safety; tools and equipment; site preparation and layout; concrete; foundations and related form work; and floor, wall, ceiling, and roof framing methods and systems. (128 contact hours)

CNBT 1053 Construction Technology III

(Continuing Education Course)

An intermediate course in foundation and form work, exterior trim and finish, and interior finish for residential and commercial construction. Topics include safety; tools and equipment; concrete; foundations and related form work; exterior building finish; and interior floor, wall, and ceiling finish. (128 contact hours)

CNBT 2039 Construction Technology IV

(Continuing Education Course)

An advanced course in site preparation, framing, and interior finish for residential, light, and commercial construction. Topics include safety, tools and equipment, finish site work and equipment, alternate framing systems and methods, interior doors and windows, walls, and floors. (128 contact hours)

Cosmetology

CSME 1271 Applications of Facials/Esthetics Technology I (120409)

(Not offered after Fall 2006 [200710])

A laboratory based learning experience that enables the students to apply specialized occupational theory, skills and concepts. Prerequisites and Co-requisites: Reading Level 4, CSME 1421 and CSME 1520 or department chair approval. 75 contact hours per semester (2:0-5).

CSME 1272 Applications of Facials/Esthetics Technology II (120409)

(Not offered after Fall 2006 [200710])

This course is a continuation of the concepts and principles of skin care and other related technologies. Prerequisites and Co-requisites: Reading Level 4, CSME 1545 and CSME 2431 or department chair approval. 75 contact hours per semester (2:0-5).

CSME 1310 Introduction to Haircutting and Related Theory (120407)

(Formerly COSM 1421, COSM 1511)

Introduction to the theory and practice of hair cutting. Topics include terminology, implements, sectioning and finishing techniques. Prerequisites and Co-Requisites: Reading Level 4, CSME 1501, CSME 1354, and courses taken in level sequence order or department chair approval. 112 contact hours per semester. Students may not receive credit for CSME 1310 if they have previously earned credit for COSM 1421 or COSM 1511. (3:1-6)

CSME 1330 Orientation to Nail Technology (120410)

(Formerly COSM 1424, COSM 1504)

An overview of the fundamental skills and knowledge necessary for the field of nail technology. Topics include bacteriology, sanitation, safety, orientation, preparation, and professional practices. Emphasis will be directed toward Texas Cosmetology Commission, department and campus rules and regulations, hand and arm massage, and basic manicure procedures. Prerequisite and Co-Requisite: Reading Level 4 and courses

taken in level sequence order or department Chair approval. 144 contact hours per semester. Students may not receive credit for CSME 1330 if they have previously earned credit for COSM 1424 or COSM 1504. (3:1-8)

CSME 1354 Artistry of Hair Design I (120407)
(Formerly COSM 1311, 1250)

Instruction to hair design. Topics include the theory and applications of wet styling, thermal hair styling, finishing techniques and client communication skills. Prerequisites and Co-Requisites: Reading Level 4, CSME 1501, and courses taken in level sequence order or department chair approval. 112 contact hours per semester. Students may not receive credit for CSME 1354 if they have previously earned credit for COSM 1311 or CSME 1250. (3:1-6)

CSME 1355 Artistry of Hair Design II (120407)

(Formerly COSM 1232, COSM 1332, CSME 1251)

A continuation of hair design. Topics include the additional theory and applications of current trends in hair design. Additional topics to include salon operations and wigology. Prerequisite and Co-Requisites: Reading Level 4, CSME 1501, CSME 1354, and courses taken in level sequence order or department chair approval. 112 contact hours per semester. Students may not receive credit for CSME 1355 if they have previously earned credit for COSM 123, COSM 1332 or CSME 1251. (3:1-6)

CSME 1371 Applications of Facial/Esthetics Technology I (120409)

A lecture and laboratory based learning experience that enables the students to apply specialized occupational theory, skills and concepts. Prerequisites: and Co-Requisites: Reading Level 4, CSME 1421 and CSME 1520 or Department Chair approval. 80 contact hours per term (3:2-3)

CSME 1372 Applications of Facial/Esthetics Technology II (120409)

The emphasis of this course will be on the TCC Facial Exam Guidelines, as well as packing of state board kits, to successfully pass the state board facial exam. Prerequisites and Co-Requisites: Reading Level 4, CSME 1421 and CSME 1520 or Department chair approval. 80 contact hours per term (3:2-3)

CSME 1421 Principles of Facial/Esthetic Technology I (120409)

(Formerly COSM 2421, COSM 2711)
An introduction to the principles of facial and esthetic technology. Topics include anatomy, physiology, theory, and related skills of facial and esthetic technology. Prerequisite and Co-Requisite: CSME 1520 Reading Level 4 and courses taken in level sequence order or department chair approval. 128 contact hours per semester. Students may not receive credit for CSME 1421 if they have previously earned credit for COSM 2421 or COSM 2711. (4:2-6)

CSME 1435 Orientation to the Instruction of Cosmetology (120413)

(Formerly COSM 2331, COSM 2611)
An overview of the skills and knowledge necessary for the instruction of cosmetology students. This course introduces the student to methods and techniques of teaching skills, including orientation, the theory of teaching basic unit planning, and daily skill lesson plan development. Prerequisites: Reading Level 6, Math Level 4, and Writing Level 6, valid Texas Cosmetology Commission operator license, high school diploma or GED. Co-Requisites: CSME 1534 or department chair approval. 112 contact hours per semester. Students may not receive credit for CSME 1435 if they have previously earned credit for COSM 2331 or COSM 2611. (4:2-5)

CSME 1457 Application of Hair Weaving and Braiding (120407)

(Formerly COSM 2202, CSME 1473, CSME 1474)
Emphasis on the application of hair weaving and braiding techniques and preparation for the Texas Cosmetology Commission Examination. Prerequisites and Co-Requisites: Reading Level 4 and concurrent enrollment with CSME 1552. Students may not receive credit for CSME 1457 if they have previously earned credit for 1473 or CSME 1474. 160 contact hours per semester. (4:2-8)

CSME 1501 Orientation to Cosmetology (120401)

(Formerly COSM 1451, COSM 1521)
An overview of the skills and knowledge necessary for the field of cosmetology. Topics to include the theory and/or skills related to service preparation, braiding, brush and scalp techniques, shampooing, conditioning, hairstyling, manicuring, pedicuring, anatomy, physiology, bacteriology, contamination and infection control. Prerequisite and Co-Requisite: Reading Level 4 and courses taken in level sequence order or department chair approval. 176 contact hours per

semester. Students may not receive credit for CSME 1501 if they have previously earned credit for COSM 1451 or COSM 1521. (5:3-8)

CSME 1505 Fundamentals of Cosmetology (120401)

A course in the basic fundamentals of cosmetology for high school, dual credit students. Topics to include service preparation, manicure, facial, chemical services, shampoo, haircut, wet styling, and comb out. The course will identify fundamental concepts related to skills required by the Texas Cosmetology Commission and implement fundamental skills required by the Texas Cosmetology Commission. Prerequisites: Reading Level 4 and courses taken in level sequence order or department chair approval. 112 contact hours per semester. (5:3-4)

CSME 1520 Orientation to Facial Specialist (120408)

(Formerly COSM 2521)
An overview of the skills and knowledge necessary for the field of facials and skin care. Prerequisite and Co-Requisite: CSME 1421 Reading level 4 and courses taken in level sequence order or department chair approval. 176 contact hours per semester. Students may not receive credit for CSME 1520 if they have previously earned credit for COSM 2521. (5:3-8)

CSME 1531 Principles of Nail Technology I (120410)

(Formerly COSM 1404, COSM 1402)
A course in the principles of nail technology. Topics include anatomy, physiology, theory, and related skills of nail technology. Additional topics to include the theory and techniques of basic pedicure, oil manicure, buffing, nail repair, and removal of stains. Emphasis will be directed toward major structures and functions of the bones, muscles and nerves of the hands and arms and feet and lower leg. Other topics include sanitation and safety measures. Prerequisites and Co-Requisite: Reading Level 4, CSME 1330 and courses taken in level sequence order or department chair approval. 176 contact hours per semester. Students may not receive credit for CSME 1531 if they have previously earned credit for COSM 1404 or COSM 1402. (5:3-8)

CSME 1534 Cosmetology Instructor I (120413)

(Formerly COSM 2432)
The fundamentals of instruction of cosmetology students. This course introduces the student to the application of methods and

techniques of teaching skills in a lab situation. Prerequisites and Co-Requisites: Reading Level 6, Math Level 4, Writing Level 6, and CSME 1435 or department chair approval. 144 contact hours per semester. Students may not receive credit for CSME 1534 if they have previously earned credit for COSM 2432. (5:3-6)

CSME 1541 Principles of Nail Technology II (120410)

(Formerly COSM 1324)

A continuation of the concepts and principles of nail technology. Topics include advanced instruction in anatomy, physiology, theory, and related skills of nail technology. Emphasis will be directed toward application of artificial nails, including equipment, implements and supplies for application of cosmetic fingernails. Other topics include sanitation, safety measures, hazardous chemicals, and MSDS information data. Prerequisites and Co-Requisites: Reading Level 4 and courses taken in level sequence order or department chair approval. 176 contact hours per semester. Students may not receive credit for CSME 1541 if they have previously earned credit for COSM 1324. (5:3-8)

CSME 1545 Principles of Facial/Esthetic Technology II (120409)

(Formerly COSM 2522)

A continuation of the concepts and principles in skin care and other related technologies. Topics include advanced instruction in anatomy, physiology, theory and related skills of facial and esthetic technology. Prerequisites and Co-Requisites: CSME 2431, Reading Level 4 and courses taken in level sequence order or department chair approval. 176 contact hours per semester. Students may not receive credit for CSME 1545 if they have previously earned credit for COSM 2522. (5:3-8)

CSME 1547 Principles of Skin Care/Facials and Related Theory (120409)

(Formerly COSM 1422, COSM 1314)

In-depth coverage of the theory and practice of skin care, facials, and cosmetics. Topics of study include facial cleansing; manipulations; toning; moisturizing; application of packs and masks; daytime, evening and corrective make-up; cosmetic chemistry; and superfluous hair removal techniques. Prerequisite and Co-Requisite: Reading Level 4 and courses taken in level sequence order or department chair approval. 176 contact hours per semester. Students may not receive credit for CSME 1547 if they have previously earned credit for COSM 1422 or COSM 1314. (5:3-8)

CSME 1552 Orientation to Hair Weaving and Braiding (120403)

(Formerly COSM 2401, CSME 1471, CSME 1472)

An overview of the skills and knowledge necessary for the field of hair weaving and braiding. Prerequisites and Co-Requisites: Reading Level 4 and concurrent enrollment with CSME 1457. Students may not receive credit for CSME 1552 if they have previously earned credit for CSME 1471 and CSME 1472. 160 contact hours per semester. (5:3-7)

CSME 1553 Chemical Reformation and Related Theory (120407)

(Formerly COSM 1321, COSM 1312)

Presentation of the theory and practice of chemical reformation including terminology, application, and workplace competencies. Emphasis on history, chemistry, hair structure, hair and scalp analysis, permanent techniques, chemical hair relaxing, reform curls, hair pressing and special permanent waving techniques. Prerequisites and Co-Requisites: Reading Level 4, CSME 1501 and courses taken in level sequence order or department chair approval. 176 contact hours per semester. Students may not receive credit for CSME 1553 if they have previously earned credit for COSM 1321 or COSM 1312. (5:3-8)

CSME 2310 Advanced Haircutting and Related Theory (120407)

(Formerly COSM 1342, COSM 1303)

Advanced concepts and practice of hair-cutting. Topics include haircuts utilizing scissors, razor, and/or clipper. Emphasis will be directed towards men's haircutting techniques, women's haircutting techniques, and client services in the salon. Prerequisites and Co-Requisites: Reading Level 4, CSME 1310 and courses taken in level sequence order or department chair approval. 112 contact hours per semester. Students may not receive credit for CSME 2310 if they have previously earned credit for COSM 1342 or COSM 1303. (3:1-6)

CSME 2414 Cosmetology Instructor II (130301)

(Formerly COSM 2333, COSM 2612)

A continuation of the fundamentals of instruction of cosmetology students. This course introduces the student to methods and techniques of teaching informational theory relative to cosmetology. Prerequisites: Reading Level 6, Math Level 4, Writing Level 6, CSME 1435 and CSME 1534. Co-Requisites: CSME 2515 or department chair approval. 112 contact hours per semester. Students may not receive credit for CSME 2414 if they have previously earned credit for COSM 2333 or COSM 2612. (4:2-5)

CSME 2430 Nail Enhancement (120410)

(Formerly COSM 1234, COSM 1334)

A course in the theory, application, and related technology of artificial nails. Topics include the theory of the skin and nail structure, functions, condition, lesions, growth, irregularities, and diseases. Emphasis will be directed toward applications of nail extensions, to include sculpture nails, tips, wraps, fiberglass, gels, odorless products, and nail art. Simulated work experience provides the opportunity for the students to enhance and further develop learned skills, safety measures, human relations, employment related skills, salesmanship, and public relations. Prerequisites and Co-Requisites: Reading Level 4 and courses taken in level sequence order or department chair approval. 112 contact hours per semester. Student may not receive credit for CSME 2430 if they have previously earned credit for COSM 1234 or COSM 1334. (4:3-4)

CSME 2431 Principles of Facial/Esthetic Technology III (120409)

(Formerly COSM 2422, COSM 2712)

Advanced concepts and principles of skin care and other related technologies. Prerequisites and Co-Requisites: CSME 1545 Reading Level 4 and courses taken in level sequence order or department chair approval. 128 contact hours per semester. Students may not receive credit for CSME 2431 if they have previously earned credit for COSM 2422 or COSM 2712. (4:2-6)

CSME 2445 Instructional Theory and Clinic Operation (120413)

(Formerly COSM 2335, COSM 2613)

An overview of the objectives required by the Texas Cosmetology Commission Instructor Examination. This course provides employment-seeking skills and instructs the student in the preparation of résumés and interviewing techniques. Prerequisites: Reading Level 6, Math Level 4, Writing Level 6, CSME 2414 and CSME 2515. Co-Requisite: CSME 2544 or department chair approval. 112 contact hours per semester. Students may not receive credit for CSME 2445 if they have previously earned credit for COSM 2335 or COSM 2613. (4:2-5)

CSME 2501 Principles of Hair Coloring and Related Theory (120407)

(Formerly COSM 1322, COSM 1313)

Presentation of the theory, practice and chemistry of hair color. Topics include terminology, application and workplace competencies related to hair color and chemistry. Emphasis will be directed towards hair lightening, and towards temporary, semi-permanent, demi-permanent, and per-

manent hair coloring using current applications, formulations, and mixing techniques. Prerequisites and Co-Requisites: Reading Level 4 and courses taken in level sequence order or department chair approval. 176 contact hours per semester. Students may not receive credit for CSME 2501 if they have previously earned credit for COSM 1322 or COSM 1313. (5:3-8)

CSME 2515 Cosmetology Instructor III (120413)

(Formerly COSM 2434)

Presentation of lesson plan assignments and evaluation techniques. This course introduces the students to the responsibility of assessing cosmetology techniques. Prerequisites: Reading Level 6, Math Level 4, Writing Level 6, CSME 1435 and CSME 1534. Co-Requisites: CSME 2414 or department chair approval. 144 contact hours per semester. Students may not receive credit for CSME 2515 if they have previously earned credit for COSM 2434. (5:3-6)

CSME 2539 Advanced Hair Design (120407)

(Formerly COSM 2313, COSM 2423)

Mastery of advanced techniques, including hair designs, professional cosmetology services, and work place competencies. Emphasis will be directed toward client services in a simulated salon. Prerequisites and Co-Requisites: Reading Level 4 and courses taken in level sequence order or department chair approval. 176 contact hours per semester. Students may not receive credit for CSME 2539 if they have previously earned credit for COSM 2313 or COSM 2423. (5:3-8)

CSME 2541 Preparation for Texas Cosmetology Commission Examination (120401)

(Formerly COSM 2443, COSM 2523)

Preparation for the Texas Cosmetology Commission Operator Examination. Emphasis will be directed toward the study of theory and skill procedures, the refinement of professional skills to service clients, and the development of business practices for successful entry into the industry. Prerequisites and Co-Requisites: Reading Level 4 and courses taken in level sequence order or department chair approval. 176 contact hours per semester. Students may not receive credit for CSME 2541 if they have previously earned credit for COSM 2443 or COSM 2523. (5:3-8)

CSME 2544 Cosmetology Instructor IV (120413)

(Formerly COSM 2436)

Advanced concepts of instruction in a

cosmetology program. Topics include demonstration and implementation of advanced evaluation and assessment techniques. Prerequisites: Reading Level 6, CSME 2414 and CSME 2515. Co-Requisites: CSME 2544 or department chair approval. 144 contact hours per semester. Students may not receive credit for CSME 2544 if they have previously earned credit for COSM 2436. (5:3-1)

Criminal Justice

Academic Transfer Courses

CRIJ 1301 Introduction to Criminal Justice (4301045124)

(Formerly Criminal Justice 131, Law Enforcement 131, CRIJ 1311)

History and philosophy of criminal justice and ethical considerations; crime defined, its nature and impact; overview of criminal justice system; law enforcement; court system; prosecution and defense; trial process; and corrections. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CRIJ 1301 and CJSA 1322.) (3:3-0)

CRIJ 1306 Court Systems and Practices (2201015424)

(Formerly CRIJ 2306)

Examination of the role of the judiciary in the criminal justice system. Topics include the structure of the American court system, prosecution, right to counsel, pretrial release, grand jury process, adjudication process, types and rules of evidence, and sentencing concepts. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CRIJ 1306 and CJSA 1313.) (3:3-0)

CRIJ 1307 Crime in America (4504015225)

(Formerly CRIJ 1320)

The study of crime problems in historical perspective; social and public policy factors affecting crime, impact, and crime trends; social characteristics of specific crimes; and crime prevention. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CRIJ 1307 and CJSA 1312.) (3:3-0)

CRIJ 1310 Fundamentals of Criminal Law (2201015324)

(Formerly Criminal Justice 231, Law Enforcement 231, Legal Aspects, CRIJ 2311)

A study of the nature of criminal law. Topics include philosophical and historical development, major definitions and concepts, classification of crime, elements of crimes and penalties, and individual criminal responsibilities. Prerequisite: Reading Level 4. (Note: Credit will not be given for both

CRIJ 1310 and CJSA 1327.) (3:3-0)

CRIJ 1313 Juvenile Justice System (4301045224)

(Formerly CRIJ 2322)

A study of the juvenile justice process. Topics include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CRIJ 1313 and CJSA 1317.) (3:3-0)

CRIJ 2301 Community Resources in Corrections (4301045324)

An overview of diversionary practices and treatment programs available to offenders in a local context. Topics include selected recognized models and future trends in community treatment. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CRIJ 2301 and CJCR 2324.) (3:3-0)

CRIJ 2313 Correctional Systems and Practices (4301045424)

(Formerly CRIJ 2325)

Corrections in the criminal justice system; organization of correctional systems, correctional role, institutional operations, alternatives to institutionalization, treatment and rehabilitation, and current and future issues. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CRIJ 2313 and CJCR 1307.) (3:3-0)

CRIJ 2314 Criminal Investigation (4301045524)

(Formerly Criminal Justice 134, Law Enforcement 134, CRIJ 1314)

Study of investigative theory, the collection and preservation of evidence, sources of information, concepts of interviewing and interrogation, the use of forensic sciences; and trial preparation. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CRIJ 2314 and CJSA 1342.) (3:3-0)

CRIJ 2323 Legal Aspects of Law Enforcement (4301045624)

(Formerly CRIJ 2319)

A study of police authority, responsibilities, constitutional constraints, laws of arrest, search and seizure, and police civil liability. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CRIJ 2323 and CJSA 2300.) (3:3-0)

CRIJ 2328 Police Systems and Practices (4301045724)

(Formerly CRIJ 2320)

Exploration of the profession of police officer. Topics include: organization of law enforcement systems, the police role, police

discretion, ethics, police/community interaction, and current and future issues. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CRIJ 2328 and CJSA 1359.) (3:3-0)

Technical Courses

CJCR, CJLE, and CJSA courses are not intended for transfer to a university criminal justice degree plan.

CJCR 1304 Probation and Parole (430102)

(Formerly CRIJ 1321)

A survey of the structure, organization, and operation of probation and parole services. Emphasis on applicable state statutes and administrative guidelines. Prerequisite: Reading Level 4. (3:3-0)

CJCR 1307 Correctional Systems and Practices (430102)

(Formerly CRIJ 2325)

A study of the role of corrections in the criminal justice system. Topics include organization and theory of correctional systems, institutional operations, management, alternatives to institutionalization, treatments and rehabilitation, and current and future issues. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CJCR 1307 and CRIJ 2313.) (3:3-0)

CJCR 2324 Community Resources in Corrections (430102)

An overview of diversionary practices and treatment programs available to offenders in a local context. Topics include selected recognized models and future trends in community treatment. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CJCR 2324 and CRIJ 2301.) (3:3-0)

CJCR 2325 Legal Aspects of Corrections (430102)

(Formerly CRIJ 2332)

A study of the operation, management, and legal issues affecting corrections. Analysis of constitutional issues involving rights of the convicted, as well as civil liability of correctional agencies and staff. Prerequisite: Reading Level 4. (3:3-0)

CJLE 1327 Interviewing and Report Writing for Criminal Justice Professions (430107)

Instruction and skill development in interviewing, note-taking, and report writing in the criminal justice context. Development of skills to conduct investigations by interviewing witnesses, victims, and suspects properly. Organization of information regarding incidents into effective written reports. Prerequisite: Reading Level 4 (3:3-0)

CJLE 1333 Traffic Law and Investigation (430107)

(Formerly CRIJ 1322)

Instruction in the basic principles of traffic control, traffic law enforcement, court procedures, and traffic law. Emphasis is on the need for a professional approach in dealing with traffic law violators and on the police role in accident investigation and traffic supervision. Prerequisite: Reading Level 4. (3:3-0)

CJLE 1394 Special Topics in Law Enforcement/Police Science

(Not offered after Fall 2005 [200610])

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Prerequisites: Approval of department chairman and a Reading Level 4. (3:2-3)

CJLE 2420 Texas Peace Officer Procedures (430107)

(Formerly CRIJ 2434)

A study of the techniques used by police officers on patrol. Includes controlled substance identification, persons with abnormal behavior, traffic collision investigation, note taking and report writing, vehicle operations, traffic direction, crowd control and jail operations. Prerequisites: Texas Peace Officer Law (CJLE 2421), approval of department chair, and Reading Level 4. (4:3-4)

CJLE 2421 Texas Peace Officer Law (430107)

(Formerly CRIJ 2433)

A study of laws that are directly related to police field work. Included are traffic, intoxicated driver, Penal Code, elements of crimes, the Family Code, Alcoholic Beverage Code, and Civil Liability. Prerequisites: Approval of department chair and Reading Level 4. (4:3-4)

CJLE 2520 Texas Peace Officer Procedures (430107)

(Formerly CJLE 2420, CRIJ 2434)

(Not offered after Fall 2005 [200610])

Study of 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. ***This is one of a sequence of three that may be offered by the colleges approved by teleose to offer the academic licensing eligibility program. Students who complete the 10 teleose approved academic crij courses and the 3 sequence courses may be certified to sit for the teleose licensing

exam. Approval by the designated college departmental administrator is required.*** Prerequisites: approval of department chair and a reading level 4. (5:3-5)

CJLE 2521 Texas Peace Officer Law (430107)

(Formerly CJLE 2421, CRIJ 2433)

(Not Offered after Fall 2005 [200610])

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. ***This is one of a sequence of three that may be offered by the colleges approved by teleose to offer the academic licensing eligibility program. Students who complete the 10 teleose approved academic crij courses and the 3 sequence courses may be certified to sit for the teleose licensing exam. Approval by the designated college departmental administrator is required.*** Prerequisites: approval of department chairman and a reading level 4. (5:3-5)

CJLE 2522 Texas Peace Officer Skills (430107)

(Formerly CRIJ 2535)

(Not offered after Fall 2005 [200610])

Requires the demonstration and practice of the skills of a police officer, including patrol, driving, traffic stops, use of force, mechanics of arrest, firearm safety, and emergency medical care. ***This is one of a sequence of three that may be offered by the colleges approved by teleose to offer the academic licensing eligibility program. Students who complete the 10 teleose approved academic crij courses and the 3 sequence courses may be certified to sit for the teleose licensing exam. Approval by the designated college departmental administrator is required.*** Prerequisites: approval of department chair and a reading level 4. (5:3-5)

CJSA 1308 Criminalistics I (430104)

Introduction to the field of criminalistics. Topics include the application of scientific and technical methods in the investigation of crime including location, identification, and handling of evidence for scientific analysis. Prerequisite: Reading level 4 (3:3-0)

CJSA 1312 Crime in America (430104)

The study of crime problems in historical perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and crime prevention. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CJSA 1312 and CRIJ 1307.) (3:3-0)

CJSA 1313 Court Systems and Practices (430104)

Examination of the role of the judiciary in the criminal justice system. Topics include the structure of the American court system, prosecution, right to counsel, pretrial release, grand jury process, adjudication process, types and rules of evidence, and sentencing concepts. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CJSA 1313 and CRIJ 1306.) (3:3-0)

CJSA 1317 Juvenile Justice System (430104)

A study of the juvenile justice process. Topics include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CJSA 1317 and CRIJ 1313.) (3:3-0)

CJSA 1322 Introduction to Criminal Justice (430104)

An overview of the criminal justice system. Topics include the history and philosophy of criminal justice, the definition of crime, and its nature and impact. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CJSA 1322 and CRIJ 1301.) (3:3-0)

CJSA 1327 Fundamentals of Criminal Law (430104)

A study of the nature of criminal law. Topics include philosophical and historical development, major definitions and concepts, classification of crime, elements of crimes and penalties, and individual criminal responsibilities. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CJSA 1327 and CRIJ 1310.) (3:3-0)

CJSA 1342 Criminal Investigation (430104)

Study of investigative theory, collection and preservation of evidence, sources of information, concepts of interviewing and interrogation, the use of forensic sciences, and trial preparation. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CJSA 1342 and CRIJ 2314.) (3:3-0)

CJSA 1348 Ethics in Criminal Justice (430104)

(Formerly CRIJ 2329)
A study of ethical thought and issues facing the criminal justice professional. Topics include constitutional ethics, codes of conduct, and standards of conduct. Prerequisite: Reading Level 4. (3:3-0)

CJSA 1351 Use of Force (430104)

(Formerly CRIJ 2316)
A study of the use of force, including introduction to and statutory authority for the use of force, force options, deadly force, and related legal issues. Fulfills the TCLEOSE Use of Force Intermediate Certificate requirements. Prerequisite: Reading Level 4. (3:3-0)

CJSA 1359 Police Systems and Practices (430104)

Exploration of the profession of police officer. Topics include organization of law enforcement systems, the police role, police discretion, ethics, police-community interaction, and current and future issues. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CJSA 1359 and CRIJ 2328.) (3:3-0)

CJSA 1373 Police/Community Relations (430107)

(Formerly CRIJ 2326)
The role of the individual officer in achieving and maintaining positive public response, inter-group relations, and public information. Prerequisite: Reading Level 4. (3:3-0)

CJSA 1374 Crime Prevention (430107)

(Formerly CRIJ 1308)
A study of the prevention of crime through cooperative ventures between law enforcement agencies and the communities they serve. Emphasis is on the prevention of crimes against property both in businesses and in the home. Includes history of crime prevention, physical security measures, special problems in loss control, and security survey procedures. Prerequisite: Reading Level 4. (3:3-0)

CJSA 2300 Legal Aspects of Law Enforcement (430104)

Exploration of police authority. Topics include responsibilities and constitutional restraints; law of arrest, search and seizure; and police liability. Prerequisite: Reading Level 4. (Note: Credit will not be given for both CJSA 2300 and CRIJ 2323.) (3:3-0)

CJSA 2302 Police Management, Supervision, and Related Topics (430103)

(Formerly CRIJ 1318)
Techniques and theories regarding dealing with people, their performance and their problems. Topics include basic supervision, leadership, time-management, first-line supervision, and management by objectives. Prerequisite: Reading Level 4. (3:3-0)

CJSA 2323 Criminalistics II (430104)

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 microscopes, and firearms identification. Prerequisite: Reading Level 4 (3:3-0)

CJSA 2388 Internship Criminal Justice Studies (430104)

This is an intermediate or advanced type of 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 paid or non-paid learning experience in a criminal justice profession. This course may be repeated if topics and learning outcomes vary. Prerequisite: Department chair approval (3:0-9).

Culinary Arts

CHEF 1205 Sanitation and Safety (120503)

(Formerly CULA 1205)
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. Fundamental principles of sanitation and safety management in public health as related to food service institutions, hospitality industries, and other related operations, including the legal, moral and economic aspect. Prerequisite: Reading Level 4. (2:2-0)

CHEF 1301 Basic Food Preparation (120503)

(Formerly RESM 1412, CULA 1301)
A study of the fundamental principles of food preparation and cookery to include Brigade System, cooking techniques, material handling, heat transfer sanitation, safety, nutrition, and professionalism. A study of composition, nutritive value, and use of foods. Physical and chemical principles affecting preparation. (3:2-4)

CHEF 1305 Sanitation and Safety (120503)

(Formerly CULA 1305)
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. (3:3-0)

CHEF 1310 Garde Manger (120503)

(Formerly RESM 2510, CULA 1409)

A study of specialty foods and garnishes. Emphasis on design, techniques, and display of fine foods. Also emphasizes basic garde manger principles and training techniques for food services professionals. (3:2-4)

CHEF 1313 Food Service Operation/Systems (120503)

(Formerly Restaurant Management 136, RESM 1316, CULA 1313)

An overview of the information needs of food and lodging properties. Emphasis on both front back and material management utilizing computer system. (3:3-0)

CHEF 1314 A La Carte Cooking (120503)

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. (3:2-4)

CHEF 1345 International Cuisine (120503)

(Formerly CULA 1345)

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 in other regions of the world. (3:1-6)

CHEF 1401 Basic Food Preparation (120503)

(Formerly Restaurant Management 142, RESM 1412, CULA 1401)

A study of the fundamental principles of food preparation and cookery to include Brigade system, cooking techniques, material handling, heat transfer sanitation, safety, nutrition, and professionalism. Study will include basic skills and terminology. (4:3-3)

CHEF 2301 Intermediate Food Preparation (120503)

(Formerly CULA 2301)

Continuation of previous food preparation course. Topics include the concept of pre-cooked food items, as well as scratch preparation. Covers full range of food preparation techniques. Prerequisite: Reading Level 4. (3:1-8)

CHEF 2365 Practicum-Culinary Arts (120503)

(Formerly RESM 2411, CULA 2365)

Practical general workplace training supported by an individualized learning plan developed by the employer, college, and 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 for pay or not pay. This course may be repeated if topics and learning outcomes vary. (3:0-21)

CHEF 2402 Saucier (120503)

(Formerly RESM 1413, CULA 2402)

Instruction in the preparation of stocks, soups, classical sauces, contemporary sauces, accompaniments, and the pairing of sauces with the variety of foods. (4:3-3)

IFWA 1305 Food Service Equipment and Planning (120508)

(Formerly Restaurant Management 141, RESM 1311)

A study of various types of food service equipment and the planning of equipment layout for product flow and efficient operation. (3:3-0)

IFWA 1318 Nutrition for the Food Service Professional (120508)

(Formerly Home Economics 2313, HOEC 1313, RSTO 1317)

An introduction to nutrition, including nutrients, digestion and metabolism, menu planning, recipe modification, dietary guidelines and restrictions, diet and disease, and healthy cooking techniques. (3:3-0)

IFWA 2437 Special Projects and Field Work (200401)

Assignment to real or simulated projects in campus facilities or off campus locations which require the application of all knowledge and skills learned throughout the program. Prerequisite: Reading Level 4. (4:1-8)

IFWA 2441 Specialized Food Preparation (120508)

(Formerly RESM 2420)

A study of local and international cooking with actual preparation of local favorite dishes and common international favorites. (4:3-3)

IFWA 2446 Quantity Procedures (120508)

Exploration of the theory and application of quality procedures for the operation of commercial, institutional, and industrial food services. Emphasis on quantity cookery and distribution. (4:2-8)

PSTR 1301 Fundamentals of Baking (120501)

(Formerly RESM 2413)

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 use of proper flours. Prerequisite: Reading Level 4. (3:2-4)

PSTR 1401 Fundamentals of Baking (120501)

(Formerly RESM 2413)

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 use of proper flours. (4:3-3)

PSTR 2331 Advanced Pastry Shop (120501)

(Formerly RESM 2414)

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. (3:2-4)

PSTR 2431 Advanced Pastry Shop (120501)

(Formerly RESM 2414)

A study of classical desserts, French and International pastries, hot and cold desserts, ice creams and ice, chocolate work, and decorations. Emphasis on advanced techniques. (4:3-3)

RSTO 1217 Nutrition for the Food Service Professional (120504)

(Formerly HOEC 1313)

An introduction to nutrition including nutrients, digestion and metabolism, menu planning, recipe modification, dietary guidelines and restrictions, diet and disease, and healthy cooking techniques. Fundamental principles of the basic food nutrients, their digestive and absorptive characteristics, and the relationship of food to the development and maintenance of health. Study of people's eating habits and the nutritional needs of all age groups. Application of the concepts of good nutrition to the planning of satisfying and interesting meals for commercial and institutional food service operations. Prerequisite: Reading Level 4. (2:2-0)

RSTO 1301 Beverage Management (120504)

(Formerly Restaurant Management 240, RESM 2310)

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, serving, and the selection of wines to enhance foods. (3:3-0)

RSTO 1313 Hospitality Supervision (120504)

(Formerly Restaurant Management 145, RESM 1315)

Fundamentals of recruiting, selection, and training of food service and hospitality personnel. Topics include job descriptions, schedules, work improvement, motivation, and applicable personnel laws and regulations. Emphasis on leadership development. (3:3-0)

RSTO 1325 Purchasing for Hospitality Operations (120504)

(Formerly Restaurant Management 133, RESM 1313)

A 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, yields, pricing formulas, controls, and record keeping at each stage of the purchasing cycle. (3:3-0)

RSTO 2301 Principles of Food and Beverage Control (120504)

(Formerly Home Economics 436, HOEC 2336)

A study of financial principles 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 international and regulatory reporting procedures. (3:3-0)

RSTO 2365 Practicum-Food and Beverage/ Restaurant Operations Manager (120504)

(Formerly Restaurant Management 252, RESM 2512, RESM 2415)

Practical general training and experiences in the workplace. The College with the employer develops and documents an individualized plan of 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 for pay or no pay. This course may be repeated if topics and learning outcomes vary. (3:0-21)

RSTO 2405 Management of Food Production and Service (120504)

(Formerly Restaurant Management 144, RESM 1414)

A study of quantity cookery and management problems pertaining to commercial and institutional food service, merchandising and variety in menu planning, and customer food preferences. Includes laboratory experiences in quantity food preparation and service. (4:3-3)

Dance

DANC 1101 Dance Composition I (5003015526)

Exploration of the qualitative use of the body through manipulation of the variables of space, time, weight and flow. (1:0-3)

DANC 1102 Dance Composition II (5003015526)

Explorations of choreographic tools with emphasis on basic compositional forms, spatial design, dynamics, rhythmic structure, character, and the use of props. Prerequisite: Dance Composition I. (1:0-3)

DANC 1151 Dance Performance I (5003015226)

Exploration of dance as an art form through participation in and performance of choreographed works. Co-Requisite: Concurrent enrollment in ballet or modern technique or departmental chair approval required. (1:0-3)

DANC 1152 Dance Performance II (5003015226)

Exploration of dance as an art form through participation in and performance of choreographed works. Co-Requisite: Concurrent enrollment in ballet or modern technique or departmental chair approval required. (1:0-3)

DANC 1341 Ballet I (5003015226)

Introduction to the theory, practice, and terminology of classical ballet with emphasis on development and refinement of barre and center technique. Prerequisite: Placement audition. (3:1-5)

DANC 1342 Ballet II (5003015226)

Continuation and progression of DANC 1341 with emphasis on development and refinement of barre and center technique. Prerequisite: Placement audition. (3:1-5)

DANC 1345 Modern I (5003015226)

Beginning technique in modern dance with emphasis on floor and center work, basic rhythm, and movement combinations. Prerequisite: Placement audition. (3:1-5)

DANC 1346 Modern II (5003015226)

Continuation and progression of DANC 1345 with emphasis on floor and center work, rhythm, and movement combinations. Prerequisite: Placement audition. (3:1-5)

DANC 2151 Dance Performance III (5003015226)

Exploration of dance as an art form through participation in and performance of choreographed works. Co-Requisite: Concurrent enrollment in ballet or modern technique or departmental chair approval required. (1:0-3)

DANC 2152 Dance Performance IV (5003015226)

Exploration of dance as an art form through participation in and performance of choreographed works. Co-Requisite: Concurrent enrollment in ballet or modern technique or departmental chair approval required. (1:0-3)

DANC 2303 Dance Appreciation (5003015426)

Introduction to dance as an art form with emphasis on historical perspectives, observation and analysis of live and video performance, and exploration/analysis of creative and expressive experiences in dance. Prerequisite: Reading Level 7, Writing Level 7. (3:3-0)

DANC 2325 Anatomy and Kinesiology

Exploration of the sciences of anatomy and kinesiology as they apply to and support the analysis of human movement. Prerequisite: Reading Level 6, Writing Level 6. (3:3-1)

DANC 2341 Ballet III (5003015226)

Further exposure to the theory, practice, and terminology of classical ballet with emphasis on expansion and refinement of the skills developed in DANC 1341 and DANC 1342. Prerequisite: Placement audition. (3:1-5)

DANC 2342 Ballet IV (5003015226)

Further exposure to the theory, practice, and terminology of classical ballet with emphasis on expansion and refinement of the skills developed in DANC 2341. Prerequisite: Placement audition. (3:1-5)

DANC 2345 Modern Dance III (5003015226)

DANC 2345 is intended to build upon and expand the technical skills developed in DANC 1345/1346, as well as to emphasize and enhance artistic aspects of movement. Prerequisite: Placement audition. (3:1-5)

DANC 2346 Modern Dance 1V (5003015226)

DANC 2346 is intended to build upon and expand the technical skills developed in DANC 2345, as well as to emphasize and enhance artistic aspects of movement. Prerequisite: Placement audition. (3:1-5)

Developmental Studies

DEVS 0305 College Study Skills (3201015212)

(Formerly Special Services 135)
College Study Skills is designed for students who desire to increase their academic potential. The course provides students with learning strategies, test-taking techniques and additional information to increase their learning effectiveness. This course is not applicable to any degree. (3:3-0)

Diesel Technology

DEMR 1301 Shop Safety and Procedures (470605)

(Formerly DEMR 1313, DIEM 2403)

A study of shop safety, rules, basic shop tools, and test equipment. Prerequisite: Reading Level 4. (3:3-0)

DEMR 1317 Basic Brake Systems (470605)

(Formerly DIEM 2523)

An introduction to the basic principles of brake systems of diesel powered equipment. Emphasis on maintenance, repairs, and troubleshooting. Prerequisite: Reading Level 4. (3:2-4)

DEMR 1323 Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair (470605)

(Formerly DIEM 1523)

An introduction to heating, ventilation, and air conditioning theory, testing, and repair. Emphasis on refrigerant reclamation, safety procedures, specialized tools, and repairs. Prerequisite: Reading Level 4. (3:2-4)

DEMR 1405 Basic Electrical Systems (470605)

(Formerly DIEM 1523)

An introduction to the basic principles of electrical systems of diesel powered equipment with emphasis on starters, alternators, batteries, and regulators. Prerequisite: Reading Level 4. (4:3-3)

DEMR 1406 Diesel Engine I (470605)

(Formerly DIEM 1501)

An introduction to the basic principles of diesel engines and systems. Prerequisite: Reading Level 4. (4:3-3)

DEMR 1410 Diesel Engine Testing and Repair I (470605)

(Formerly DIEM 1502)

An introduction to testing and repairing diesel engines, including related systems specialized tools. Prerequisite: Reading Level 4. (4:3-3)

DEMR 1411 Diesel Engine Testing and Repair II (470605)

(Formerly DIEM 1504)

Coverage of testing and repairing diesel engines, including related systems specialized tools. Prerequisite: Reading Level 4. (4:3-3)

DEMR 1421 Power Train I (470605)

(Formerly DIEM 2523)

Introduction to fundamentals, repair, and theory of power trains including clutches, transmissions, drive shafts, and differentials. Emphasis on inspection and repair. Specific

attention will include the Allison V-Drive, HD 740, World Transmission, and the 1000 and 2000 Series Transmissions. Prerequisite: Reading Level 4. (4:3-3)

DEMR 1449 Diesel Engine II (470605)

(Formerly DEMR 1371)

An in-depth coverage of disassembly, repair, identification, evaluation, and reassembly of diesel engines. Prerequisite: Reading Level 4. (4:3-3)

DEMR 2266 Field Experience-Diesel Engine Mechanic and Repairer (470605)

(Formerly DIEM 2301, DEMR 2388)

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 may be paid or unpaid. This course may be repeated if topics learning outcomes vary. Prerequisites: Reading Level 4. (2:0-16)

DEMR 2334 Advanced Diesel Tune-up and Troubleshooting (470605)

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. Prerequisite: Reading Level 4. (3:2-4)

DEMR 2432 Electronic Controls (470605)

Advanced skills in diagnostic and programming techniques of electronic control systems. Prerequisite: Reading Level 4. (4:3-3)

Dietetic Technology

DITA 1400 Dietary Manager I (513104)

(Formerly HOEC 1501)

Preparation for supervisory roles in food service departments. Emphasis on normal and therapeutic nutrition and food service systems management. Major topics include dietary and meal planning guidelines, sources and functions of nutrients, diet therapy, nutritional assessment and care, food production management and purchasing, and regulatory agencies. Co-Requisite: FDNS 1168. (4:4-0)

DITA 1401 Dietary Manager II (513104)

(Formerly HOEC 1502)

Continuation of Dietary Manager I. Emphasis on food service sanitation and safety, administrative and personnel management. Major topics include regulatory agencies, computer applications, production management, budgeting and cost control, personnel management, quality assurance, leadership skills, human relations, and communications. Co-Requisite: FDNS 1168. (4:4-0)

FDNS 1103 Introduction to Dietetics (513101)

An introduction to the profession of dietetics in health care delivery systems. Includes roles and responsibilities of dietetics team members, standards, and ethics in dietetic practice. Emphasis on effective professional communications. Co-Requisite: FDNS 2233. (1:1-0)

FDNS 1168 Practicum-Dietetics/Human Nutritional Services (190503)

Practical general workplace training supported by an individualized plan developed by employer, college and 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. Co-Requisite: DITA 1400 or DITA 1401. (1:0-10)

FDNS 1309 Nutrition in the Community (190501)

(Formerly Home Economics 433, HOEC 2333) A study of the nutritional status of populations at the national, state, and local community levels. Socioeconomic cultural, and psychological influences on eating behavior, national and state health objectives, marketing strategies for objective implementation, and community nutrition programs serving risk-group populations. Basic teaching/counseling methods for the nutrition education of small groups and individual clients/patients. (3:3-0)

FDNS 1345 Medical Nutrition Therapy I (1905025133)

(Formerly Home Economics 333, HOEC 2332, HECO 1323)

Applications of nutrition principles and techniques of nutrition care for healthy individuals and patients/clients at low nutrition risk. Nutrition risk screening, interviewing/counseling methods, diet evaluation, basic diet calculations, documentation, medical terminology, food and drug interactions, quality assurance and physical fitness. Prerequisite: HECO 1322. (3:3-0)

FDNS 1346 Medical Nutrition Therapy II (513101)

(Formerly Home Economics 435, HOEC 2335, MDDT 2331)

Principles of techniques of nutrition care for clients/patients at low to moderate nutrition risk. Includes a study of the scientific basis of diets for individuals with diabetes mellitus, pulmonary and cardiovascular disease, and weight control needs. Nutrition assessment parameters, nutrition care planning and evaluation, and menu editing methods. Prerequisites: FDNS 1345 and HECO 1322 (3:3-0)

FDNS 1360 Clinical-Dietetics/Human Nutritional Services I (190503)

(Formerly Home Economics 238, HOEC 2318)
A health related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Specific detailed learning objectives are developed for each course by the faculty. Clinical experiences are unpaid external learning experiences. Prerequisites: FDNS 1103 and FDNS 2233 (3:0-10)

FDNS 1447 Medical Nutrition Therapy III (190501)

(Formerly HOEC 2338)
Advanced principles and techniques of nutrition care for clients/patients at low to moderate risk. Includes a study of the scientific basis of diets for individuals with cancer, gastrointestinal disease, and renal disease. Also includes nutrition assessment parameters, nutrition care planning and evaluation, and menu editing methods. (4:4-0)

FDNS 2233 Dietetic Seminar (513101)

(Formerly Home Economics 1301, MDDT 2233)
Mastery of the knowledge and performance requirements for dietetic technicians. Topics include standards of practice, professional ethics, evaluation of current literature, pre-employment activities, and obtaining and maintaining professional registration. Co-Requisite: FDNS 1103. (2:2-0)

FDNS 2360 Clinical-Dietetics/Human Nutritional Services II (513101)

A health related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Specific detailed learning objectives are developed for each course by the faculty. Clinical experiences are unpaid external learning experiences. Prerequisite: FDNS 1360 (3:0-10).

FDNS 2460 Clinical-Dietetics/Human Nutritional Services III (513101)

A health related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Specific detailed learning objectives are developed for each course by the faculty. Clinical experiences are unpaid external learning experiences. Students may not receive credit for FDNS 2460 if they have previously earned credit for FDNS 1460. Prerequisite: FDNS 2360 (4:0-13).

HECO 1322 Principles of Nutrition (1905015109)

(Formerly Home Economics 233, HOEC 2323, HOEC 1322)
Fundamental principles of human nutrition and metabolic processes. Food selection and quality of nutrients in normal and therapeutic diets related to needs of individuals through the life cycle. (3:3-0)

IFWA 1318 Nutrition for the Food Service Professional (1205045424)

(Formerly HOEC 1313, RSTO 1317)
An introduction to nutrition, including nutrients, digestion and metabolism, menu planning, recipe modification, dietary guidelines and restrictions, diet and disease, and healthy cooking techniques. (3:3-0)

Drafting Technology

(See Engineering Design Graphics)

Drama**DRAM 1120 Rehearsal and Performance (5005015226)**

(Formerly Drama 111, 112, 211, 212, DRAM 1111)
Open to all students interested in the theatre. Credit is earned for acting, technical work or other participation. Course may be taken a maximum of four times for credit. (1:0-6)

DRAM 1310 Theatre (5005015126)

(Formerly Drama 134, DRAM 1314)
Introduction to the basic practices, history, theories and styles of the theatre. Survey of major fields of theatrical art. Elementary stage techniques are studied along with fundamental acting techniques. (3:3-0)

DRAM 1330 Technical Production (5005025126)

(Formerly Drama 136, DRAM 1316)
An introduction to the theory and practical application of theatre lighting, set design, and construction techniques. Students are provided the opportunity to participate in actual production situations as members of stage crews. Workshop hours will be scheduled as required. (3:3-0)

DRAM 1341 Stage Makeup (5005025226)

(Formerly DRAM 1318)
This course will instruct the student actor in the theory and practice of stage makeup, encompassing all forms of corrective and character application. Enrollment is open to all students without prerequisite (3:3-0)

DRAM 1342 Introduction to Costuming (5005025326)

Costuming will focus on the design and building of stage costumes for production. Students will learn to sketch costume designs and will be responsible for a full costume plot for a production. Students will also learn to sew and construct costumes, as well as to work within a given costuming budget. (3:2-2)

DRAM 1351 Acting I (5005065126)

(Formerly Drama 133, DRAM 1313)
Introduction to the basic skills and techniques of acting, with character analysis and development. Characterization and lab work in scenes from great dramatic literature. Rehearsal will be scheduled as required. (3:3-0)

DRAM 1352 Acting II (5005065126)

(Formerly Drama 234, DRAM 2314)
A continuation and consolidation of the gains made in DRAM 1351. Rehearsal will be scheduled as required. Prerequisite: DRAM 1351. (3:3-0)

DRAM 2331 Technical Production II (5005025126)

(Formerly DRAM 1317)
Advanced study of the theory and practical application of theatre lighting, set design, construction techniques, and stage sound. Students are provided the opportunity to participate in actual production situations as members of stage crews. Workshop hours will be scheduled as required. Prerequisite: DRAM 1330 or approval of department chair. (3:3-0)

DRAM 2336 Voice and Diction (5005065226)

(Formerly Speech/Drama 232, DRAM 2312)
Instruction in the development of effective habits in the use of the speaking voice. Emphasis upon the study of English phonetics, phrasing, intonation, and voice production. Training is given to enable the student to listen intelligently to the sound of his/her own voice. Students cannot receive credit for both SPCH 1342 and DRAM 2336. Prerequisite: Reading Level 6. (3:3-0)

DRAM 2341 Oral Interpretation (2310015712)

(Formerly Speech/Drama 232, DRAM 2311)
Introduction to oral interpretation of literature. Preparation and reading of printed material. Practical experience in storytelling and choral speaking. Instruction in techniques and analysis of literature to be read aloud. Emphasis on the techniques of oral reading. Students cannot receive credit for both SPCH 2341 and DRAM 2341. Prerequisite: Reading Level 6. (3:3-0)

Course Descriptions

DRAM 2351 Acting III (5005065126)

The development of basic skills and techniques of acting for the purpose of exploring performance and its relationship to various acting environments. Emphasis is placed on acting choices that affect character and script analysis in regard to acting for the camera. A comparative study of stage acting vs. acting for the camera, using an interdisciplinary approach to art, music, philosophy and theater. Emphasis is also placed on methods of relaxation, communication and the cybernetic approach to film/video acting. Prerequisite: DRAM 1351 and DRAM 1352 or approval of the Director of Theatre. (3:3-2)

DRAM 2366 Introduction to Motion Picture Arts (5006025126)

A comparative study of the different genres of motion pictures. Emphasis on the evaluation and appreciation of the motion picture structure within each genre. Film production, acting, writing, and special effects will be discussed. Full length movies will be watched in their entirety during a two-hour lab. Visual, oral, and written evaluations of each movie are required. (3:2-2)

Economics

ECON 2301 Principles of Macroeconomics (4506015125)

(Formerly Economics 233, ECON 2313)
A survey of contemporary economic problems, including the concepts of national income and economic growth, determinants of aggregate demand and supply, business cycles, stabilization policies, and international economics and economic systems. Prerequisites: Reading Level 7, Writing Level 7, and Math Level 7. (3:3-0)

ECON 2302 Principles of Microeconomics (4506015125)

(Formerly Economics 234, ECON 2314)
A survey of the concepts of price determination and resource allocations in a market economy, including the economics of consumption, production, and factor income, and the relationships of money and government to the market. Prerequisites: Reading Level 7, Writing Level 7, and Math Level 7. (3:3-0)

Education

EDUC 1301 Introduction to the Teaching Profession (1301015109)

This is an enriched, integrated pre-service course and content experience that (1) provides active recruitment and institutional support of students interested in a teaching career, especially in high need fields;

(2) provides students with opportunities to participate in early field observations at all levels of P-12 schools with varied and diverse student populations; (3) provides students with support from college and school faculty, preferably in small cohort groups, for the purpose of introduction to and analysis of the culture of schooling and classrooms; (4) is aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards; (5) includes a 30-contact hour lab component, 15 hours of which will consist of in-class activities and videos interwoven with lectures, and 15 hours of which must be in P-12 schools. Prerequisites: Reading Level 6, Writing Level 6. (3:3-1)

EDUC 2301 Introduction to Special Populations (1301015109)

An enriched, integrated, pre-service course and content experience that: 1) provides an overview of schooling and classrooms from the perspectives of language, gender, socioeconomic status, ethnic and academic diversity, and equity with an emphasis on factors that facilitate learning; 2) provides students with opportunities to participate in early field observations of P-12 special populations; 3) is aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards; 4) includes a 30-contact hour lab component, 15 hours of which must be with special populations in P-12 schools. Prerequisites: EDUC 1301, Reading Level 6, Writing Level 6. (3:3-1)

Electrical Technology

Credit Courses

ELPT 1215 Electrical Calculations I (460301)

Introduction to mathematical applications utilized to solve problems in the electrical field. Topics include fractions, decimals, percentages, simple equations, ratio, and proportion, metric conversion, and applied geometry. Electrical calculations to solve DC and AC electrical circuits are included. (2:2-0)

ELPT 1311 Basic Electrical Theory (460301)

(Formerly ELEC 1310)
Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current. Also covers electrical terminology, circuit analysis and mathematical formulas as applied to direct and alternating current circuits. (3:2-2)

ELPT 1325 National Electric Code I (460301) (Formerly ELEC 1311)

An introductory study of the National Electrical Code (NEC) for those employed in a field requiring knowledge of the Code. Emphasis will be on wiring design, protection, methods and materials; equipment for general use, and basic calculations. (3:3-0)

ELPT 1345 Commercial Wiring (460301)

A study of commercial wiring methods. Includes over current protection, raceway panel board installation, proper grounding techniques, and associated safety procedures. (3:2-2)

ELPT 1351 Electrical Machines (460301)

A study of direct current (DC) motors, single-phase and polyphase alternating current (AC) motors, generators, and alternators. Emphasis will be on construction, characteristics, efficiencies, starting, and speed control. Prerequisite: ELPT 1311 (3:2-2)

ELPT 1355 Electronics for Electricians (460301)

This course is a study of electronic principles and the use of electronic devices. Electronic devices include diodes, transistors, and rectifiers. Also included are Zener diodes, light emitting diodes, silicon controlled rectifiers (SCRs), diacs, triacs, and power supplies. Prerequisite: ELPT 1311 (3:2-2)

ELPT 1345 Commercial Wiring (460301)

This course provides instruction in commercial wiring methods. The National Electrical Code will be used to size branch circuits, feeders, and service equipment, outlet and junction boxes, and conduit; and to learn proper grounding techniques, installation of lighting, and utilization of equipment. Students will gain experience in safe workplace practices, the proper use of hand tools and ladders; interpreting blueprints and specifications; bending and installation of conduit; installation of armored cable; and wiring of devices, load centers, and service equipment. (3:2-2)

ELPT 1351 Electrical Machines (460301)

(Formerly ELEC 1312)
General principles and fundamentals of direct current (DC) motors, single-phase and polyphase alternating current (AC) motors, generators, and alternators. Emphasis will be on their construction, characteristics, efficiencies, starting, and speed control. Prerequisite: ELPT 1311. (3:2-2)

ELPT 1429 Residential Wiring (460301)

(Formerly ELEC 1415)

IA study of wiring methods for single family and multi-family dwellings that includes load calculations, service entrance sizing, proper grounding techniques, and associated safety procedures. (4:3-3)

ELPT 1440 Master Electrical Exam Review I (460301)

An introductory study of electrical theory, code calculations and interpretations applicable to becoming a Master Electrician. Emphasis will be on residential, commercial, and industrial installations using the current edition of the National Electrical Code and local ordinances. Prerequisite or Co-requisite: ELPT 2325 or approval of department chair. (4:4-0)

ELPT 1441 Motor Controls (460301)

(Formerly ELEC 2415)

A study of operating principles dealing with solid-state control and conventional controls along with their practical applications. Includes braking, jogging, plugging, safety interlocks, wiring, and schematic diagram interpretations. Emphasis will be placed on practical wiring, ladder diagrams, relay logic and timers. Prerequisite: ELPT 1311 or approval of department chair. (4:3-3)

ELPT 2215 Electrical Calculations II (460301)

Further study of mathematical applications utilized to solve problems in the electrical field. The course includes fractions, decimals, ratio and proportion, applied geometry, and utilization of right triangles to calculate electrical values. Also includes power factor correction, fault currents, neutral currents, conductor ampacity and other advanced calculations. Prerequisite: ELPT 1215 or approval of department chair. (2:2-0)

ELPT 2301 Journeyman Electrician Exam Review (460301)

(Formerly ELEC 2310)

This course provides preparation for journeyman electricians, with emphasis on calculations and the National Electrical Code (NEC). Special attention is directed toward test taking skills and practice exams as they apply to the local area journeyman exams. Prerequisite: ELPT 2325 or approval of department chair. (3:3-0)

ELPT 2305 Motors and Transformers (460301)

(Formerly ELEC 1314)

(Not offered after Fall 2005 [200610])

This course provides a study of the principles of operation of single- and three-phase

motors and transformers. Topics include transformer banking, power factor correction, and protective devices. Prerequisites: ELPT 1311 or approval of department chair. (3:3-0)

ELPT 2325 National Electrical Code II (460301)

(Formerly ELEC 1313)

In-depth coverage of the National Electrical Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring protection and methods, special conditions, and advanced calculations. Prerequisite: ELPT 1325 or department chair approval. (3:3-0)

ELPT 2337 Electrical Planning and Estimating (460301)

(Formerly ELEC 2313)

Planning and estimating for residential, commercial and industrial wiring systems. Statistical procedures of various methods of estimating are introduced along with a variety of electrical techniques. Prerequisite: ELPT 2325 or approval of department chair. (3:2-2)

ELPT 2343 Electrical System Design (460301)

(Formerly ELEC 2318)

Electrical design of commercial and/or industrial projects including building layout, types of equipment, placement, sizing of electrical equipment, and all electrical calculations according to the requirements of the National Electrical Code (NEC). Prerequisite: ELPT 2325 or approval of department chair. (3:3-0)

ELPT 2364 Field Experience (460301)

(Formerly ELEC 2340)

This course provides 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 for pay or no pay. This course may be repeated if topics and learning outcomes vary. Prerequisite: approval of department chair. (3:0-21)

ELPT 2405 Motors and Transformers (460301)

Operation of single and three-phase motors and transformers. Includes transformer banking, power factor correction, and protective devices. Also included are three-phase power concepts, transformer and motor connections, transformer and motor metering, and transformer and motor troubleshooting theory. Prerequisite: ELPT 1311 or approval of department chair. (4:4-0)

ELPT 2449 Industrial Automation (460301)

(Formerly ELEC 2418)

Advanced study of electrical control systems, applications, and interfacing utilized in industrial automation. Ladder logic diagramming and programmable logic controllers are covered as they apply to electrical controls. Prerequisite: ELPT 1441. (4:3-3)

ELPT 2451 Master Electrician Exam Review I (460301)

(Formerly ELEC 2416)

(Not offered after Fall 2005 [200610])

This course is an introductory study of electrical theory, code calculations, and interpretations applicable to becoming a master electrician. Emphasis will be on residential, commercial, and industrial installations using the current edition of the National Electrical Code (NEC) and local ordinances. Prerequisite or Co-Requisite: ELPT 2325 or approval of department chair. (4:4-0)

ELPT 2452 Master Electrician Exam Review II (460301)

(Formerly ELEC 2417)

This is an advanced study of electrical theory, code calculations, and interpretations applicable to becoming a master electrician. Emphasis will be on residential, commercial, and industrial applications using the current edition of the National Electrical Code (NEC). Prerequisite or Co-Requisite: ELPT 2451 or approval of department chair. (4:4-0)

Non-Credit Continuing Education Courses

IEIR 1002 Direct Current: Electrical IB (460301)

(Continuing Education Course)

Fundamentals of direct current, including Ohm's Law. Emphasis on methods of analyzing series, parallel, and combination circuits, including measurement devices. (128 contact hours)

IEIR 1006 Electric Motors: Electrical 3 (460301)

(Continuing Education Course)

Fundamentals of single-phase and three-phase alternating current motors and direct current motors, including operating principles, characteristics, application, selection, installation, maintenance, and troubleshooting. (128 contact hours)

IEIR 1012 Distribution Systems: Electrical 2 (460301)

(Continuing Education Course)

Fundamentals of distribution systems, including single-phase and three-phase systems, grounding, ground fault protection, and the National Electric Code (NEC). (128 contact hours)

ELPT 2043 Electrical Systems Design: Electrical 4 (460301)

(Continuing Education Course)

Skill development in the electrical design of a commercial or industrial project, including building layout, types of equipment, placement, sizing of electrical equipment, and all electrical calculations according to the requirements of the National Electrical Code (NEC). (128 contact hours)

Electronics Instrumentation

INTC 1401 Principles of Industrial Measurement (150404)

(Not offered after Summer 2003 [200330])

(Formerly ELIN 1410)

A study of the principles and devices for the measurement of control variables such as temperature, pressure, flow, level, and basic control functions. (4:3-3)

INTC 1443 Applications of Industrial Automatic Control (150404)

(Not offered after Summer 2003 [200330])

(Formerly ELIN 1420)

A study of automatic process control, including measuring devices, analog and digital instrumentation, signal transmitters, recorders, alarms, controllers, control valves, and process and instrument alarms, controllers, and process and instrument drawings. Includes connection and troubleshooting of loops. (4:3-3)

INTC 1445 Instrumentation Repair (150404)

(Not offered after Summer 2003 [200330])

(Formerly ELIN 2411)

Analysis of the procedures necessary to isolate faults in microcomputer or programmable logic controller based process control systems including symptom analysis, schematic and print reading, and proper use of test equipment to isolate failures to the repairable unit. (4:3-3)

INTC 2330 Troubleshooting (150404)

(Not offered after Summer 2003 [200330])

(Formerly ELIN 2412)

An introduction to the techniques of troubleshooting in a sophisticated instrumented

environment. Topics of study will include troubleshooting upsets in actual chemical processes. (3:2-2)

INTC 2433 Instrumentation and Installation (470603)

(Not offered after Summer 2003 [200330])

(Formerly ELIN 2418)

A capstone course in instrumentation technology that integrates material from previous courses, including the process to design, size, install, connect, and start up a small pilot plant. (4:3-3)

INTC 2436 Distributed Control and Programmable Logic (470603)

(Not offered after Summer 2003 [200330])

(Formerly ELIN 2410)

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. (4:3-3)

Emergency Medical Technology

EMSP 1160 Clinical-Emergency Medical Technician-Basic (510904)

(Formerly EMMT 1111)

A health related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinical professional. Specific detailed learning objectives are developed for the course. Continuous enrollment may be required until these are met. Pre- or Co-requisites: EMSP 1501 or department chair approval. Four hours orientation, thirty-two hours clinical, forty-eight field hours. (1:0-5.25)

EMSP 1260 Clinical-Emergency Medical Technician-Intermediate (510904)

(Formerly EMMT 1114 and EMMT 1116)

A health related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinical professional. Specific detailed learning objectives are developed for the course. Continuous enrollment may be required until these are met. Pre- or Co-requisites: EMSP 1338, EMSP 1355, EMSP 1356 or department chair approval. Four hours orientation, sixty-four hours clinical, sixty-four field hours. (2:0-8.25)

EMSP 1305 Emergency Care Attendant (510904)

(Formerly EMMT 1311)

Basic first responder course in basic emergency medical care. Emphasis on the requirements of national and state accrediting agencies. The student will display a working knowledge of clinical information and related topics relevant to the practice of pre-hospital emergency medical care at the Emergency Care Attendant (ECA) level; demonstrate the ability to competently perform all applicable skills; and exhibit attitudes and behavior consistent with the ethics and professionalism expected of the Emergency Care Attendant. This course is designed for the first responding personnel such as law enforcement, fire fighters, industrial team members, etc. Upon successful completion of the course, the student may sit for the Texas Department of Health certification exam. The student must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Forty-two lecture and fourteen laboratory hours. (3:2.63-0.88)

EMSP 1338 Introduction to Advanced Practice (510904)

An exploration of the foundations necessary for mastery of the advanced topics of clinical practice out of the hospital. Curriculum based on Department of Transportation National Standard Curriculum. The student must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisite: EMSP 1160, EMSP 1501 or department chair approval. Reading Level 6, Writing Level 6 and Math Level 6. Forty lecture and twenty-four laboratory hours. (3:2.5-1.5)

Trauma Management (510904)

A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with traumatic injuries. Curriculum based on Department of Transportation National Standard Curriculum. The student must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Pre or Co-Requisite: EMSP 1338, EMSP 1356, or department chair approval. Reading Level 6, Writing Level 6 and Math Level 6. Forty lecture and twenty-four laboratory hours. Including International Trauma Life Support-Advanced Course. (3:2.5-1.5)

EMSP 1356 Patient Assessment and Airway Management (510904)

A detailed study of the knowledge and skills required to reach competence in performing patient assessments and airway management. Curriculum based on Department of Transportation National Standard Curriculum. The student must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Pre or Co-Requisites: EMSP 1260, EMSP 1338, EMSP 1355 or department chair approval. Reading Level 6, Writing Level 6 and Math Level 6. Thirty-two lecture and thirty-two laboratory hours. (3:2-2)

EMSP 1501 Emergency Medical Technician (510904)

(Formerly EMMT 1613)

Introduction to the level of Emergency Medical Technician-Basic (EMT-B). Includes all the skills necessary to provide emergency medical care at a basic life support level with an ambulance service or other specialized services. Curriculum based on Department of Transportation National Standard Curriculum. The student must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Co-Requisite: EMSP 1160. Reading Level 6, Math Level 4, Writing Level 4. Sixty-four lecture, sixty-four laboratory and eight hours of Cardiopulmonary Resuscitation (5:4-4.5)

EMSP 2161 Clinical-Emergency Medical Technician-Paramedic I (510904)

(Formerly EMMT 2114)

A health related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinical professional. Specific detailed learning objectives are developed for the course. Continuous enrollment may be required until these are met. Pre- or Co-requisites: EMSP 2348, EMSP 2244 or department chair approval. Four hours orientation, sixty-four hours clinical. (1:0-4.25)

EMSP 2162 Clinical-Emergency Medical Technician-Paramedic II (510904)

(Formerly EMMT 2115)

A health related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinical professional. Specific detailed learning objectives are developed for the course. Continuous enrollment may be re-

quired until these are met. Pre- or Co-requisites: EMSP 2330, EMSP 2434 or department chair approval. Four hours orientation, sixty-four hours clinical. (1:0-4.25)

EMSP 2168 Practicum/Field Experience-Emergency Medical Technician-Paramedic (510904)

(Formerly EMMT 2116)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college and student. Direct supervision is provided by the health care professional. Practical/field experiences are unpaid external learning experiences. As outlined in the learning plan, the student will apply theory, concepts, and skills involving specialized materials, equipment, procedures, regulations, laws, and interactions within an among political, economic, environmental, social, and legal systems associated with the particular occupation and the business/industry; demonstrate legal and ethical behavior, safety practices, interpersonal and teamwork skills, and appropriate written and verbal communication skills using the terminology of the occupation and the business or industry. Specific detailed learning objectives are developed for the course. Continuous enrollment may be required until these are met. Pre- or Co-requisite: EMSP 2338, EMSP 2243 or department chair approval. Four hours orientation, one hundred forty-four field hours. (1:0-9.25)

EMSP 2243 Assessment Based Management (510904)

One of the capstone courses of the EMSP program. Designed to provide for teaching and evaluating comprehensive assessment-based patient care management. At the completion of this module, the student will be able to integrate pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for patients with common complaints. The student must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Pre- or Co-Requisite: EMSP 2168, EMSP 2338 or department chair approval. Reading Level 6, Writing Level 6 and Math Level 6. Twenty-four lecture and forty laboratory hours. (2:1.5-2.5)

EMSP 2330 Special Populations (510904)

A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of ill or injured patients in non-traditional populations. Curriculum based on Department of Transpor-

tation National Standard Curriculum. The student must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Pre or Co-Requisite: EMSP 2161 or department chair approval. Reading Level 6, Writing Level 6 and Math Level 6. Forty lecture and twenty-four laboratory hours, including either Pediatric Advanced Life Support or Pediatric Education for Pre-Hospital Providers course. (3:2.5-1.5)

EMSP 2338 EMS Operations (510904)

A detailed study of the knowledge and skills necessary to reach competence to safely manage the scene of an emergency. Curriculum based on Department of Transportation National Standard Curriculum. Practical field exercises will be performed; some may require weekend participation. The student must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisite: department chair approval. Reading Level 6, Writing Level 4, Math Level 4. Twenty-four lecture hours, seventy-two laboratory hours. (3:1.5-4.5)

EMSP 2348 Emergency Pharmacology (510904)

A comprehensive course covering all aspects of the utilization of medications in treating emergency situations, the course is designed to complement Cardiology, Special Populations and Medical Emergency courses. Curriculum based on Department of Transportation National Standard Curriculum. The student must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisite: EMSP 1260 or department chair approval. Reading Level 6, Writing Level 6 and Math Level 6. Thirty-two lecture and thirty-two laboratory hours. (3:2-2)

EMSP 2434 Medical Emergencies (510904)

A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with medical emergencies. Curriculum based on Department of Transportation National Standard Curriculum. The student must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Pre or Co-Requisite: EMSP 2330 or department chair approval. Reading Level 6, Writing Level 6 and Math Level 6. Sixty-four lecture and sixteen laboratory hours. (4:4-1)

EMSP 2444 Cardiology (510904)

A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with cardiac emergencies. Curriculum based on Department of Transportation National Standard Curriculum. The student must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Pre or Co-Requisite: EMSP 2348 Co-Requisite: EMSP 2161 or department chair approval. Reading Level 6, Writing Level 6 and Math Level 6. Forty-eight lecture and forty-eight laboratory hours. Including Advanced Cardiovascular Life Support course. (4:3-3)

Engineering

ENGR 2301 Engineering Mechanics I - Statics (1411015210)

(Formerly Engineering 233, 2333)
Calculus-based study of composition and resolution of forces, equilibrium of force systems, friction, centroids, and moments of inertia. Prerequisite: PHYS 2425. Co-Requisite: MATH 2414. (3:3-0)

ENGR 2302 Engineering Mechanics II - Dynamics (1411015210)

(Formerly Engineering 234, 2334)
Calculus-based study of dynamics of rigid bodies, force-mass-acceleration, work-energy, and impulse-momentum computation. Prerequisite: ENGR 2301. Co-Requisite: MATH 2415. (3:3-0)

ENGR 2304 Computer Programming (1102015207)

(Formerly Engineering 232, 2332)
An introduction to computer programming using the FORTRAN77 language for the solution of mathematical and engineering problems. Students will learn to create and compile programs using IBM-compatible personal computers. Programming projects will include numerical approximation of functions, numerical integration, solution of linear systems, and curve-fitting. Prerequisite: MATH 2413 or approval by department chair. (3:3-0)

ENGR 2332 Strength of Materials (1411015110)

(Formerly Engineering 2306)
This course will include a study of basic principles of statics including forces, moments, internal stresses, strain, free body diagrams, and shear and moment diagrams. The design of simple structural members such as beams and columns is included. Prerequisite: MATH 1316. (3:3-0)

Engineering Design Graphics

DFTG 1402 Introduction to Technical Animation and Rendering (110803)

(Formerly DFTG 2471)
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, and importing and modification of external files. Course projects reflect current practices in the architectural, engineering, and construction disciplines. (4:3-3)

DFTG 1405 Technical Drafting (151301)

(Formerly ENGR 1478)
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. (4:3-3)

DFTG 1409 Basic Computer-Aided Drafting (151302)

(Formerly DRAF 2417, DRFT 2417)
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, and coordinate systems; and plot/print to scale. Prerequisite or Co-Requisites: DFTG 1405 or DFTG 1413 or department chair approval. (4:3-3)

DFTG 1413 Drafting for Specific Occupations (151301)

(Formerly DRAF 1411, DRFT 1411)
Discussion of theory and practice with drafting methods and the terminology required for non-drafting majors to prepare working drawings in their occupational fields. (4:3-3)

DFTG 1417 Architectural Drafting-Residential (151303)

(Formerly DRAF 1415, DRFT 1415)
Architectural drafting procedures, practices, and symbols, including preparation of detailed working drawings for a residential structure with emphasis on light frame construction methods. Prerequisite: DFTG 1409 or DFTG 1413 or department chair approval. (4:3-3)

DFTG 1419 Fundamentals of Computer-Aided Drafting (151302)

(Formerly DFTG 1471)
The fundamentals of computer-aided drafting using the MicroStation drafting program. Emphasis is placed on drawing setup;

creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects; adding text and dimensions; using layers and coordinate systems; as well as using input and output devices. (4:3-3)

DFTG 1421 Architectural Illustration (151303)

(Formerly DRAF 1415, DRFT 1415)
Architectural drawing and sketching, including freehand drawing, perspectives, delineation in various media, and development of students' graphical expression, including an introduction to various reproduction methods. Extensive use of VIZ software to develop 3D models, special lighting effects, camera positioning, and material application to create animated walkthroughs and panoramas. Prerequisite: DFTG 1409 or DFTG 1413 or department chair approval. (4:3-3)

DFTG 1441 Intermediate Technical Animation and Rendering (110803)

(Formerly DFTG 2472)
Procedures in the manipulation and control of lights, cameras, materials, texturing and rendering techniques used in technical animation; topics include introductory keyframing and lens effects principles. Prerequisite: DFTG 1402. (4:3-3)

DFTG 2386 Internship-Drafting and Design Technology/Technician, General (151301)

(Formerly DRFT 2318, DRFT 2367)
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. The job description for the worksite must relate to the general curriculum of the Engineering Design Graphics Department. The student must be working a minimum of 18 hours per week in a paid or unpaid drafting/design position. Prerequisite: 16 hours of Engineering Design Graphics courses (8 of these credits must be earned at San Jacinto College), or department chair approval. An interview and department chair approval are required prior to enrollment. (3:0-18)

DFTG 2402 Machine Drafting (151306)

(Formerly DRAF 1412, DRFT 1412)
Production of detail and assembly drawings of machines, threads, gears, cams, tolerances and limit dimensioning, surface finishes, and precision drawings. Prerequisite: DFTG 1409 or department chair approval. (4:3-3)

DFTG 2405 Printed Circuit Board Design (151305)

(Formerly DRAF 2425, DRFT 2425, DFTG 2404)

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. Prerequisite: DFTG 1409 or department chair approval (4:3-3)

DFTG 2406 Machine Design (151306)

Theory and practice of design. Projects in problem solving, including press fit, bolted and welded joints, and transmission components. Prerequisite: DFTG 1409 or department chair approval. (4:3-3)

DFTG 2408 Instrumentation Drafting (151305)

(Formerly DRFT 2432)

Principles of instrumentation as applicable to industrial applications, fundamentals of measurement and control devices, currently used in ISA (Instrumentation Society of America) symbology, basic flow sheet layout, and drafting practices. Prerequisite: DFTG 1409 or department chair approval. (4:3-3)

DFTG 2410 Structural Drafting (151301)

(Formerly DRFT 2433)

Discussion of detail drawings of structural shapes for fabrication, with emphasis on framed and seated connectors and beam and column detailing. Designed to meet the standards of the American Institute of Steel Construction, including units on concrete detailing conforming to American Concrete Institute standards. Prerequisite: DFTG 1409 or department chair approval. (4:3-3)

DFTG 2416 Electrical Drafting (151305)

(Formerly DRAF 2413, DRFT 2413, DFTG 2475)

A study of electrical drawing preparation as applied to commercial and industrial standards. Prerequisites: DFTG 1409 or DFTG 1413 or department chair approval. (4:3-3)

DFTG 2417 Descriptive Geometry (151301)

(Formerly DFTG 1456)

Graphical solutions to problems involving points, lines, and planes in space. Prerequisite: DFTG 1405. (4:3-3)

DFTG 2419 Intermediate Computer-Aided Drafting with MicroStation (151302)

(Formerly DRFT 2420, DFTG 1452)

A continuation of practices and techniques used in basic MicroStation computer-aided drafting emphasizing advanced dimensioning techniques, the development and use of

prototype drawings, construction of pictorial drawings, construction of 3-dimensional drawings, interfacing 2D and 3D environments, and extracting data. Prerequisite: DFTG 1419 or department chair approval. (4:3-3)

DFTG 2421 Topographic Drafting (151301)

(Formerly DFTG 1414, DFTG 1448)

Plotting of surveyors' field notes, plotting elevations, contour drawings, plan and profiles, and laying out traverses. Prerequisite: DFTG 1409 or department chair approval. (4:3-3)

DFTG 2423 Pipe Drafting (151301)

(Formerly DRFT 2412, DFTG 1444)

A study of pipe fittings, symbols, and specifications and their applications to a piping process system. Creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics. Prerequisite: DFTG 1409 or department chair approval. (4:3-3)

DFTG 2428 Architectural Drafting-Commercial (151303)

(Formerly DRFT 2414, DFTG 1454)

Architectural drafting procedures, practices, and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods. Prerequisite: DFTG 1409 or DFTG 1413 or department chair approval. (4:3-3)

DFTG 2432 Advanced Computer-Aided Drafting (151302)

(480101) (Formerly DRFT 2435)

Use of advanced techniques including the use of a customized system and the principles of data manipulation for drawing production enhancement. Presentation of advanced drawing applications, such as three-dimensional modeling and linking graphic entities to external non-graphic data. Prerequisite: DFTG 1409 or department chair approval. (4:3-3)

DFTG 2436 Computer-Aided Drafting Programming (151302)

(Formerly DRFT 2430)

Use of programming language to enhance CAD software. Prerequisite: DFTG 1409 or department chair approval. (4:3-3)

DFTG 2437 Advanced Technical Animation and Rendering (110803)

(Formerly DFTG 2473)

The implementation and orchestration of advanced technical three-dimensional animation techniques such as hierarchical linking, forward and inverse kinematics, character development, and particle dynamics. Course

projects reflect current practices in architectural, engineering, or construction disciplines. Prerequisite: DFTG 1441. (4:3-3)

DFTG 2440 Solid Modeling/Design (151302)

A computer-aided modeling course. Development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work. Prerequisites: DFTG 1409 or departmental chair approval. (4:3-3)

DFTG 2444 Strength of Materials (151301)

(Formerly ENGR 2332)

The study of internal effects of forces acting upon elastic bodies and the resulting changes in form and dimensions, including units on stress, shear, bending moments, and simple beam design. Prerequisite: MATH 1316. (4:4-0)

DFTG 2445 Advanced Pipe Drafting (151301)

(Formerly DRAF 2427, DFTG 2474)

A continuation of pipe drafting concepts, building on basic principles acquired in pipe drafting. This course will apply computer-aided drafting techniques to process pipe drawings and symbology using AutoPLANT software. Students will utilize pipe, fitting, valve, flange, and mechanical equipment symbols to create a 3D piping model, arrangement drawings, sections, and elevations. Additional drawing symbols will be used to develop flow diagrams and piping isometrics. Prerequisite: DFTG 1444 and DFTG 1409 or department chair approval. (4:3-3)

DFTG 2458 Advanced Machine Design (151306)

Design process skills for the production of a complete design package, which includes jig and fixture design, extrusion dies, and injection mold design. Prerequisite: DFTG 2406 or department chair approval. (4:3-3)

Note: See Engineering Section for courses which have ENGR prefixes.

English

ENGL 0306 Beginning Writing Skills (3201085335)

(Formerly Special Services 136, DEVS 1306)

This course is designed for systematic study and review of acceptable grammatical forms and proper punctuation in a gradual progression from sentence structure to paragraph writing. The course offers opportunities to develop basic writing skills and to enhance critical thinking. The course includes one hour of lab weekly. This course is not applicable to any degree. Prerequisite: Writing Level 4. (3:3-1)

ENGL 0307 Preparation for College English (3201085335)

(Formerly Basic English, English 137, 1301)
This course is a comprehensive review of the fundamentals of composition and grammar with emphasis on paragraph writing, beginning theme construction, and mechanical and syntactical correctness. It provides students with opportunities to develop critical reading and writing skills through reading and discussing the works of professional writers. This course is not applicable to any degree. Prerequisite: A grade of C or above in ENGL 0306 or Writing Level 6. (3:3-0)

ENGL 0308 Writing and Grammar: English for Speakers of Other Languages (3201085335)

This course reviews the fundamentals of composition and grammar with emphasis on logical paragraph and essay construction, clear and idiomatic English, appropriate syntactical features, and mechanical correctness. In addition, the course provides for the development of critical reading, thinking, writing, and speaking skills through the analysis and discussion of professional essays. Laboratory sessions provide group and individual practice with a variety of second language problem areas. This course is not applicable to any degree. Prerequisite: A grade of C or above in ENGL 0306 or Writing Level 6. (3:3-1)

ENGL 1111 Creative Writing Workshop (2305015112)

(Formerly English 111)
This composition course is designed for students interested in practicing and criticizing artistic expression through writing. The course also provides experience in producing San Jacinto College's literary magazines. Course may be taken a maximum of six times for credit. Prerequisite: Writing Level 7. (1:1-0)

ENGL 1301 Composition I (2304015112)

(Formerly English 131, ENGL 1311)
The student is given extensive practice in reading and writing expository and argumentative prose. The various elements of composition, such as logical organization, effective diction, and complete and varied development, are stressed. A formal research paper is required. Prerequisite: A grade of C or above in ENGL 0307 or Writing Level 7. (3:3-0)

ENGL 1302 Composition II (2304015112)

(Formerly English 132, ENGL 1312)
A continuation of English 1301, this course extends the writing and critical reading and thinking skills developed in Composition I through the careful reading of major literary

genres and the preparation of critical and analytical writing assignments. Research writing is required. Prerequisite: ENGL 1301. (3:3-0)

ENGL 1303 Honors Composition I (2304015112)

(Formerly ENGL 1313)
This course is designed for students who have strong backgrounds in composition and who make high scores on an English placement test. Assignments in the course will emphasize reading and writing skills, argumentation, the informal essay, and the research paper. Prerequisites: Writing Level 9 and recommendation of department chair. A student may not receive credit for both ENGL 1301 and ENGL 1303. (3:3-0)

ENGL 1304 Honors Composition II (2304015112)

(Formerly ENGL 1314)
A continuation of English 1303, this course extends a student's skills in reading and writing critically by introducing him/her to works of literature that represent various genres and that suggest a number of ideas. Students will write a number of short papers analyzing ideas and concepts from the works they read, and they will submit a documented study of one author or of a significant theme in a number of works. Examinations and quizzes may also be a part of the semester grade. Prerequisite: ENGL 133 or nomination by the department chair. A student may not receive credit for both ENGL 1302 and ENGL 1304. (3:3-0)

ENGL 2307 Creative Writing (2305015112)

This elective composition course provides an opportunity for students to create imaginative works for pleasure and publication within the supportive atmosphere of a writing workshop. The workshop may emphasize a single genre, such as poetry, fiction, or drama. Alternatively, the workshop may allow individual students to write original compositions in genres of their interest in response to classroom assignments. Students analyze significant contemporary literature, finding models of successful forms and effective technique. In addition, they critique the work of classmates. Literary theory and strategies for publication are discussed. Students are also encouraged to participate as editors of the College literary magazines and to submit their best work for publication. This three-credit-hour course may be taken once for college credit. A student may elect a maximum of six hours of creative writing courses for college credit (English 1111, English 2307, and English

2308). English 2307 may also be taken through Continuing Education as a non-credit course. Prerequisite: Writing Level 7. (3:3-0)

ENGL 2308 Creative Writing Studies (2305015112)

This elective composition course provides an opportunity for students to create imaginative works for pleasure and publication within the supportive atmosphere of a writing workshop. The workshop may emphasize a single genre, such as poetry, fiction, or drama. Alternatively, the workshop may allow individual students to specialize on projects longer than those typically covered in English 2307 within such literary areas as personal and narrative essay, poetry, prose fiction or drama. Students analyze significant contemporary literature, finding models of successful forms and effective techniques. Additionally, students critique the work of classmates. Literary theory and strategies for publication are discussed. Students are also encouraged to participate as editors for the College literary magazines and to submit their best work for publication. This three-credit hour course may be taken once for college. A student may elect a maximum of six hours of creative writing courses for college credit (English 1111, English 2307, and English 2308). English 2308 may also be taken through Continuing Education as a non-credit course. Prerequisite: English 1301. (3:3-0)

ENGL 2311 Technical Report Writing (2311015112)

(Formerly English 234, ENGL 2314)
This course applies the principles of composition to actual writing situations in technical areas, stressing correctness and effectiveness in a variety of report forms, including an investigative paper on a technical topic. Prerequisite: ENGL 1301. (3:3-0)

ENGL 2322 A Survey of Early British Literature: The Anglo-Saxon Age Through the Neo-Classical Age (2308015112)

(Formerly English 231, ENGL 2311)
This course offers opportunities for reading and discussing the works of major British writers as well as significant events and persons in cultural history. Students will be asked to complete a variety of writing assignments including essay examinations, short compositions, and investigative papers. Prerequisite: ENGL 1302. (3:3-0)

ENGL 2323 A Survey of Later British Literature: The Romantic Age Through the Present Age (2308015112)

(Formerly English 232, ENGL 2312)

This course offers opportunities for reading and discussing the works of major Romantic, Victorian, and modern British writers as well as significant events and personalities in the development of cultural history from the late eighteenth century to the present. Students will be asked to complete a variety of writing assignments including essay examinations, short compositions, and investigative papers. Prerequisite: ENGL 1302. (3:3-0)

ENGL 2327 A Survey of Early American Literature (2307015112)

(Formerly ENGL 2326)

This course offers opportunities for discussing and reading works by major American writers from the Puritan period through the Romantic period, making an effort to identify those themes and literary forms which are characteristic of the American heritage. Students will be asked to complete a variety of writing assignments including essay examinations, short critical compositions, and investigative papers. Prerequisite: ENGL 1302. (3:3-0)

ENGL 2328 A Survey of Later American Literature (2307015112)

(Formerly ENGL 2326)

This course offers opportunities for discussing and reading works by major American writers from the Realistic/Naturalistic period to the present, making an effort to identify those themes and literary forms which are characteristic of the American heritage. Students will be asked to complete a variety of writing assignments including essay examinations, short critical compositions, and investigative papers. Prerequisite: ENGL 1302. (3:3-0)

ENGL 2332 A Survey of Early World Literature (1601045213)

(Formerly ENGL 2315)

By reading, discussing, and writing about works of selected writers from a number of cultures from ancient times to the eighteenth century, the student will become aware of the diverse ways in which human beings have attempted to understand themselves and their relationship to nature, art, the supernatural, and society. The course is especially relevant to students majoring in humanities or human studies. Students will be asked to complete a variety of writing assignments including essay examinations, short compositions, and investigative papers. Prerequisite: ENGL 1302. (3:3-0)

ENGL 2333 A Survey of Later World Literature (1601045213)

(Formerly ENGL 2316)

A continuation of English 2332, this course offers opportunities for the discussion of writers representing many cultures from the Eighteenth Century to the present. This course is especially relevant to students majoring in humanities or human studies. Students will be asked to complete a variety of writing assignments including essay examinations, short compositions, and investigative papers. Prerequisite: ENGL 1302. (3:3-0)

ENGL 2370 Selected Studies in Literature (2303015335)

This course offers students opportunities for intensive analysis of literary works that may be unified by theme, period, or subject matter. Students will be asked to complete a variety of writing assignments including essay examinations, short compositions, and investigative papers. The course may be repeated a maximum of two times for transfer credit, provided the repeated course covers a different topic. Prerequisite: ENGL 1302 (3:3-0)

English for Speakers of Other Languages

ESOL 0311 Introductory Listening and Speaking (3201085512)

This course focuses on developing basic social and pre-academic speaking and listening skills which include pronouncing, describing, giving directions, and comprehending oral directions. This course does not apply toward any degree. Prerequisite: Standardized Test of English language proficiency. (3:3-0)

ESOL 0312 Intermediate Listening and Speaking (3201085512)

This course is designed for students with some English skills who want to increase their listening, speaking, and writing communication skills. This course does not apply toward any degree. Prerequisite: Completion of ESOL 0311 with a grade of C or better or minimum score on a standardized test of English language proficiency. (3:3-0)

ESOL 0313 Advanced Listening and Speaking (3201085512)

This course develops public and academic oral language skills through active participation in group activities. Rhetorical skills such as narration and description will be practiced. This course does not apply

toward any degree. Prerequisite: A grade of C or better in ESOL 0312 or minimum score on a standardized test of English language proficiency. (3:3-0)

ESOL 0321 ESOL Introductory Reading (3201085612)

This course is designed for the non-native speaker. It focuses on English language development through reading activities such as comprehension and vocabulary. This course does not apply toward any degree. Prerequisite: Standardized test of English language proficiency. (3:3-0)

ESOL 0322 ESOL Intermediate Reading (3201085612)

This course continues language development through reading comprehension, vocabulary building and paragraph organization. This course can be taken with other skill areas of ESOL. This course does not apply toward any degree. Prerequisite: A grade of C or better in ESOL 0321 or minimum score on a standardized test of English language proficiency. (3:3-0)

ESOL 0323 Advanced Reading (3201085612)

This course continues language development through reading comprehension, vocabulary building, and adapting reading rate for different purposes. This course can be taken with other skill areas of ESOL. This course does not apply toward any degree. Prerequisites: A grade of C or better in ESOL 0322 or minimum score on a standardized test of English language proficiency. (3:3-0)

ESOL 0331 Introductory Writing and Grammar (3201085712)

This course helps students learn to comprehend and use the basic structures of English and perform simple writing tasks such as using complete sentences, filling out forms, writing invitations, and communicating through short notes. This course does not apply toward any degree. Prerequisite: Standardized test of English language proficiency. (3:3-0)

ESOL 0332 Intermediate Writing and Grammar (3201085712)

This course introduces the development of controlled and guided paragraphs using a variety of organizational structures, logic patterns, and basic grammar. This course does not apply toward any degree. Prerequisite: A grade of C or better in ESOL 0331 or minimum score on standardized test of English language proficiency. (3:3-0)

ESOL 0333 Advanced Writing and Grammar (3201085712)

This course stresses the process of paragraph writing and the characteristics of effective paragraphs. The student will learn how to write controlled essays, to develop and support opinions, and to write introductions and conclusions. This course does not apply toward any degree. Prerequisite: A grade of C or better in ESOL 0332 or minimum score on a standardized test of English language proficiency. (3:3-0)

ESOL 0341 Introduction to Developmental Composition for Non-Native Speakers (3201085412)

This course is for ESOL students who need to master the rhetorical modes for academic English writing situations such as persuasion, comparison-contrast, cause-effect, and definition. This course will introduce them to essays, short stories, and poetry. This course does not apply toward any degree. Prerequisite: Standardized test of English language proficiency. (3:3-0)

ESOL 0342 Advanced Developmental Composition for Non-Native Speakers (3201085412)

This course is designed for non-native speakers who have taken ESOL 0341 and need to master the rhetorical modes for academic English writing and reading situations and learn to recognize the different uses of language. This course does not apply toward any degree. Prerequisite: Completion of ESOL 0341 with a grade of C or better or minimum score on a standardized test of English language proficiency. (3:3-0)

Fire Protection Technology

FIRS 1301 Firefighter Certification I (430203)

An introduction to firefighter safety and development. Topics include Texas Commission on Fire Protection Rules and Regulations, firefighter safety, fire science, personal protective equipment, self-contained breathing apparatus, and fire reports and records. Thirty-two lecture hours. Forty-eight hours of skills development. Firefighter Training Academy Prerequisite: Reading Level 6. Co-Requisite: FIRS 1301, FIRS 1313, FIRS 1319, FIRS 1329, FIRS 1407, FIRS 1423, FIRS 1433, and PHED 1119. (3:2-3)

FIRS 1313 Firefighter Certification III (430203)

General principles of fire apparatus, pump operations, fire streams, and public operations as they relate to fundamental development of basic firefighter skills. Forty-eight hours lecture hours. Sixteen hours of skills development. Firefighter Training Academy Prerequisite: Reading Level 6. Co-Requisites: FIRS 1301, FIRS 1313, FIRS 1319, FIRS 1329, FIRS 1407, FIRS 1423, FIRS 1433, and PHED 1119. (3:3-1)

FIRS 1319 Firefighter Certification IV (430203)

A study of equipment, tactics and procedures used in forcible entry, ventilation, salvage, and overhaul. Preparation for certification as a basic firefighter. Thirty-two lecture hours. Thirty-two hours of skills development. Firefighter Training Academy. Prerequisite: Reading Level 6. Co-Requisite: FIRS 1301, FIRS 1313, FIRS 1319, FIRS 1329, FIRS 1407, FIRS 1423, FIRS 1433, and PHED 1119. (3:2-2)

FIRS 1329 Firefighter Certification VI (430203)

The study of fire inspection techniques and practices, public transportation, and fire cause determination. Topics include fire protection systems, wild land fire, and pre-incident planning. Preparation for certification as a basic firefighter. Forty-eight hours lecture hours. Sixteen hours of skills development. Firefighter Training Academy. Prerequisite: Reading Level 6. Co-Requisite: FIRS 1301, FIRS 1313, FIRS 1319, FIRS 1329, FIRS 1407, FIRS 1423, FIRS 1433, and PHED 1119. (3:3-1)

FIRS 1407 Firefighter Certification II (430203)

The study of basic principles and skill development in handling fire service hose and ladders. Topics include the distribution system of water supply; basic building construction, and emergency service communication, procedures, and equipment. Thirty-two lecture hours. Sixty-two hours of skills development. Firefighter Training Academy Prerequisite: Reading Level 6. Co-Requisites: FIRS 1301, FIRS 1313, FIRS 1319, FIRS 1329, FIRS 1407, FIRS 1423, FIRS 1433, and PHED 1119. (4:2-5)

FIRS 1423 Firefighter Certification V (430203)

The study of ropes and knots, rescue procedures and techniques, and hazardous materials. Preparation for certification as a basic firefighter. Forty-eight hours lecture hours. Forty-eight hours of skills development. Firefighter Training Academy. Prerequisite: Reading Level 6. Co-Requisite: FIRS 1301, FIRS 1313, FIRS 1319, FIRS 1329, FIRS 1407, FIRS 1423, FIRS 1433, and PHED 1119. (4:3-3)

FIRS 1433 Firefighter Certification VII (430203)

An in-depth study and practice of simulated emergency operation and hands-on live fire training exercises, incident command procedures and combined operations using proper extinguishing methods. Emphasis on safety. Thirty-two lecture hours. Sixty-two hours of skills development. Firefighter Training Academy. Prerequisite: Reading Level 6. Co-Requisite: FIRS 1301, FIRS 1313, FIRS 1319, FIRS 1329, FIRS 1407, FIRS 1423, FIRS 1433, and PHED 1119. (4:2-5)

FIRT 1303 Fire and Arson Investigation I (430202)

In-depth study of basic fire and arson investigation practices. Emphasis on fire behavior principles related to fire cause and origin determination. Forty-eight lecture hours. Sixteen hours of skills development. (3:3-1)

FIRT 1305 Public Education Programs (230202)

Preparation of firefighters and fire officers to develop public fire safety awareness. Emphasis on implementation of fire and public safety programs in an effort to reduce the loss of life. Forty-eight lecture hours. (3:3-0)

FIRT 1307 Fire Prevention Codes and Inspections (430202)

Study of local building and fire prevention codes. Emphasis on fire prevention inspections, practices, and procedures. Forty-eight lecture hours. Sixteen hours of skills development. (3:3-1)

FIRT 1309 Fire Administration I (430202)

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. Forty-eight lecture hours. (3:3-0)

FIRT 1315 Hazardous Materials I (430203)

Study of the chemical characteristics and behavior of various materials. Topics include storage, transportation, handling hazardous emergency situations, and the most effective methods of hazard mitigation. Equivalent to Hazardous Materials Operations Level Training. Forty-eight lecture hours. Sixteen hours of skills development. (3:3-1)

FIRT 1319 Firefighter Health and Safety (430201)

Study of firefighter occupational safety and health in emergency and non-emergency situations. The student will identify and describe components of a firefighter safety

and health program: explain safety practices and procedures related to emergency and non-emergency operations; and outline the components of a firefighter wellness program. Forty-eight lecture hours. (3:3-0)

FIRT 1327 Building Construction for the Fire Service (430201)

(Formerly FIRT 1329)

Exploration of building construction and design related to fire spread suppression in various structures. Examination of potential hazards resulting from construction practices and materials. The student will identify types of building construction; recognize hazards associated with construction practices; identify fire resistive levels of building materials; and recognize signs of potential structural collapse. Forty-eight lecture hours. (3:3-0)

FIRT 1331 Firefighting Strategies and Tactics I (430202)

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. Forty-eight lecture hours. (3:3-0)

FIRT 1338 Fire Protection Systems (430202)

Study of fire detection, alarm, and extinguishing systems. Forty-eight lecture hours. (3:3-0)

FIRT 1345 Hazardous Materials II (430203)

In-depth study of mitigation practices and techniques to effectively control hazardous material spills and leaks. Equivalent to Hazardous materials Technician Level Training. Forty-eight lecture hours. Sixteen hours of skills development. (3:3-1)

FIRT 1349 Fire Administration II (430201)

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. Prerequisite: FIRT 1309. Forty-eight lecture hours. (3:3-0)

FIRT 1355 Methods of Teaching (430299)

Preparation of public safety personnel to effectively teach technical skills, techniques, and information. Forty-eight lecture hours. (3:3-0)

FIRT 1370 Technical Rope Rescue (430201)

An in-depth study of technical rope rescue including extensive skills development. Upon successful completion of this course students should be able to identify, describe, and demonstrate rope rescue and confined space rescue procedures at the technician

level. The content of this course meets and/or exceeds the job performance requirements specified in NFPA 1006 Rescue Technical Professional Qualifications including the specialty areas of rope rescue and confined space rescue. (3:2-3)

FIRT 1408 Fire Inspector I (430202)

Fire inspection including rules, codes, and field inspection practices to meet certification requirements of the Texas commission on Fire Protection. Select and limit applicable rules and regulations; select and apply appropriate codes; list different type of construction and allowable occupancy classifications; and describe building service equipment and process. Describe and list possible hazards; list different types of fire protection systems and water supplies; and demonstrate field proficiency in inspection practices. This course meets and/or exceeds Texas commission on Fire Protection requirements for certification to Fire Inspector I. (4:3-3)

FIRT 1440 Fire Inspector II (430202)

Fire inspection rules, procedures, and inspection practices to meet the Texas Commission on Fire Protection requirements for Fire Inspector II. Process a permit applying the appropriate codes, rules, hazard identification processes, building processes, emergency plans, and fire protection systems,. This course meets and/or exceeds Texas Commission on Fire Protection requirements for certification to Fire Inspector II. (4:3-3)

FIRT 2331 Firefighting Strategies and Tactics II (430202)

Continuation of Firefighting Strategies and Tactics I. Emphasis on use of incident command in large-scale command problems and other specialized fire problems. Prerequisite: FIRT 1331. Forty-eight lecture hours. (3:3-0)

FIRT 2333 Fire and Arson Investigation II (430201)

Continuation of Fire and Arson Investigation I. Topics include reports, courtroom demeanor, and expert witnesses. Forty-eight lecture hours. Sixteen hours of skills development. (3:3-1)

FIRT 2345 Hazardous Materials III (430203)

Continuation of Hazardous Materials II. Topics include radioactive materials and radiation; poisons and toxicology; cryogenics; oxidizers; corrosives; flammable solids; hazards of Class A fuels, plastics and organic and inorganic peroxides and water reactivity; and polymerization and polymerizing substances. Forty-eight lecture hours. Sixteen hours of skills development. (3:3-1)

FIRT 2351 Company Fire Officer (430202)

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. Forty-eight lecture hours. (3:3-0)

Foreign Languages

FREN 1411 Beginning French I (1609015113)

(Formerly French 145)

This course is an introduction to the French language in written and spoken form. Students will spend three hours a week learning language patterns and forms and two hours a week in lab activities. Students who have successfully completed two years of French in high school may, with department chair approval, begin with FREN 1412. However, students should be aware that some degrees require two semesters of beginning French. Prerequisite: Reading Level 6. (4:3-2)

FREN 1412 Beginning French II (1609015113)

(Formerly French 146)

This course continues the introduction to the French language begun in French 1411. Students who have had two or more years of French in high school or can demonstrate adequate proficiency may begin with this course, provided they have approval from the department chair. Students will spend three hours a week learning language patterns and forms and two hours a week in lab activities. Prerequisite: FREN 1411. (4:3-2)

FREN 2311 Intermediate French I (1609015213)

(Formerly French 235, 2313)

This course is designed to give the student who has completed French 1411 and 1412 increased fluency and confidence in the use of the French language. Although no lab is scheduled, students will have access to tapes and other lab materials and will be encouraged to use these supplemental learning tools. Prerequisites: FREN 1411-1412. (3:3-0)

FREN 2312 Intermediate French II (1609015213)

(Formerly French 236, 2314)

This course is a continuation of French 2311. Although no lab is scheduled, students will have access to tapes and other lab materials and will be encouraged to use these supplemental learning tools. Prerequisite: FREN 2311. (3:3-0)

GERM 1411 Beginning German I (1605015113)

(Formerly German 143)

This course is an introduction to the German language in written and spoken form. Students will spend three hours a week learning language patterns and forms and two hours a week in lab activities. Students who have successfully completed two years of German in high school may, with the department chair approval, begin with GERM 1412. However, students should be aware that some degrees require two semesters of beginning German. Prerequisite: Reading Level 6. (4:3-2)

GERM 1412 Beginning German II (1605015113)

(Formerly German 144)

This course continues the introduction to the German language begun in German 1411. Students who have had two or more years of German in high school or can demonstrate adequate proficiency may begin with this course, provided they have approval from the department chair. Students will spend three hours a week learning language patterns and forms and two hours a week in lab activities. Prerequisite: GERM 1411. (4:3-2)

GERM 2311 Intermediate German I (1605015213)

(Formerly German 233, 2313)

This course is designed to give the student who has completed German 1411 and 1412 increased fluency and confidence in the use of the German language. Although no lab is scheduled, students will have access to tapes and other lab materials and will be encouraged to use these supplemental learning tools. Prerequisites: GERM 1411-1412. (3:3-0)

GERM 2312 Intermediate German II (1605015213)

(Formerly German 232, 2314)

This course is a continuation of German 2311. Although no lab is scheduled, students will have access to tapes or other lab materials and will be encouraged to use these supplemental learning tools. Prerequisite: GERM 2311. (3:3-0)

SPAN 1411 Beginning Spanish I (1609055113)

(Formerly Spanish 141)

This course is an introduction to the Spanish language in written and spoken form, enabling a beginning student to lay foundations for later study. Students will spend three hours a week learning language patterns and forms and two hours a week in lab activities. Students who have success-

fully completed two years of Spanish in high school may, with the department chair approval, begin with SPAN 1412. However, students should be aware that some degrees require two semesters of beginning Spanish. Prerequisite: Reading Level 6. (4:3-2)

SPAN 1412 Beginning Spanish II (1609055113)

(Formerly Spanish 142)

This course continues the introduction to the Spanish language begun in Spanish 1411. Students who have had two or more years of Spanish in high school or can demonstrate adequate proficiency may begin with this course, provided they have approval from the department chair. Prerequisite: SPAN 1411. (4:3-2)

SPAN 1415 Essentials of Spanish for Health Vocations (1609055413)

(Formerly Spanish 140, 1401)

This course requires intensive practice in basic grammar, pronunciation, reading and simple conversation; emphasis is placed on medical terminology. This course cannot be substituted for SPAN 1411. (4:3-2)

SPAN 2311 Intermediate Spanish I (1609055213)

(Formerly Spanish 231, 2313)

This course is designed to give the student who has completed Spanish 1411 and 1412 increased fluency and confidence in the use of the Spanish language. Although no lab is scheduled, students will have access to tapes and other lab materials and will be encouraged to use these supplemental learning tools. Prerequisites: SPAN 1411-1412. (3:3-0)

SPAN 2312 Intermediate Spanish II (1609055213)

(Formerly Spanish 232, SPAN 2314)

This course is a continuation of Spanish 2311. Although no lab is scheduled, students will have access to tapes and other lab materials and will be encouraged to use these supplemental learning tools. Prerequisite: SPAN 2311. (3:3-0)

SPAN 2316 Spanish on the Job I (1609055413)

(Formerly Spanish 233)

The primary purpose of this course is to give the student an opportunity to develop an accurate oral use of the language (in simulated on-the-job situations), based on a sound understanding of structure. Reading will be incidental to the oral objective. Prerequisite: Eight hours of Spanish or approval. (3:3-0)

SPAN 2317 Spanish on the Job II (1609055413)

(Formerly Spanish 234)

This course has the same objectives as SPAN 2316 but utilizes different simulated on-the-job situations. Prerequisite: Eight hours of Spanish or approval. (3:3-0)

Geographic Information Science (GIS)

CRTG 1301 Cartography and Geography in Geographical Information Systems (GIS) and Global Positioning Systems (GPS) (450702)

Introduction to the principles of cartography and geography. Emphasis will be on global reference systems and the use of satellites for measurements and navigation. Prerequisite: CRTG 1311 or department chair approval. (3:2-2)

CRTG 1311 Introduction to Geographic Information Systems (GIS) (450702)

Introduction to basic concepts of vector GIS, using several industry specific software programs, and to the nomenclature of cartography and geography. Prerequisite: Basic knowledge of computers and Windows environment. (3:2-2)

CRTG 1321 Introduction to Raster-Based Geographic Information Systems (Cartography) (GIS) (450702)

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. Prerequisite: CRTG 1311 or department chair approval. (3:2-2)

CRTG 2301 Data Acquisition and Analysis in Geographic Information Systems (Cartography) (GIS) (450702)

Study of the management of geographic information, system life cycles, and the cost/benefit ratio. Topics include demographic management and institutional issues such as data providers, data management, combination of attribute and graphical data, information storage and access, Texas and national standards for spatial data; and applications GIS for demographic modeling and analysis. Prerequisite: CRTG 1311, or department chair approval. (3:2-2)

CRTG 2311 Workplace Geographic Information Systems (Cartography) (GIS) (450702)

Application of GIS technology to real workplace applications from public and private sectors. Completion of Global Position Systems (GPS) fieldwork required for lab exercises. Prerequisite: CRTG 1311 or department chair approval. (3:2-2)

CRTG 2380 Cooperative Education Cartography (GIS) (450702)

Career-related activities encountered in GIS are offered through cooperative agreement between the College, employer, and student. Under supervision of the College and the employer, the student combines classroom learning with work experience. Prerequisite: CRTG 1301, CRTG 1311, and CRTG 1321. (3:1-20)

Geography

GEOG 1301 Physical Geography (4507015125)

A study of climate, vegetation, soils, and landforms from a locational perspective with an emphasis on map skills. The role of humans in altering their environment is considered, especially the human impact on climate and vegetation. Other topics include the study of latitude and longitude; time zones; earth-sun relationships and the changing seasons; along with severe weather, such as hurricanes and tornadoes. (Geography 1301 may satisfy the geography requirements for elementary education majors. Check with the Counseling Center.) Prerequisite: Reading Level 6. (3:3-0)

GEOG 1302 Cultural Geography (4507015125)

This course introduces students to the study of where and why people and activities are located on the earth's surface. Geographic concepts include spatial organization of economic, social, political, and perceptual environments in an increasingly interrelated world community. Prerequisite: Reading Level 6. (3:3-0)

GEOG 1303 World Geography (4507015325)
(Formerly Geography 231, GEOG 231)

(Required of all Elementary Education Majors)
A survey of world regions and the geographical factors that shape them. Includes basic geography concepts; world population trends; regional economic, political, language and religious characteristics; topography, vegetation, and climate of regions; the world food problem; economic development; non-industrial cultures and cultural change; and geopolitical analysis. Prerequisite: Reading Level 6. (3:3-0)

Geology

GEOL 1403 Physical Geology (4006015103)
(Formerly Geology 141, GEOL 1411)

An introduction to the scope of geology, the concepts involved, the several branches of the science, and the economics and cultural aspects of the science. Emphasis is placed on the physical makeup of the earth and the processes modifying the earth's crust. Prerequisite: Reading Level 6. (4:3-3)

GEOL 1404 Historical Geology (4006015103)
(Formerly Geology 142, GEOL 1412)

An introduction to the principles of sedimentology, stratigraphy, and paleontology. Subject matter covers the major geologic changes that have occurred in earth history in their chronological order. The more important of these changes include diastrophism, eustatic fluctuations, erosion and its effects including the deposition of new strata, and organic evolution. Prerequisite: Reading Level 6. (4:3-3)

GEOL 1405 Environmental Geology (0301025301)

An overview of the effects of geological processes combined with natural forces and human activity on the global environment. Specific topics will include volcanism, earthquakes, natural resources, waste disposal, coastal processes, surface and groundwater pollution, subsidence, and faulting. Field trip(s) required. Prerequisite: GEOL 1403 or GEOL 1404. (4:3-3)

Geometric Surveying Technology (Land Surveying)

SRVY 1301 Introduction to Surveying (151102)

An overview of the surveying profession. The history of surveying and its impact on the world. Review of the mathematics used in surveying. Introduction to basic surveying equipment with emphasis on measurements. Instruction on surveying procedures and the limitation of errors. Calculation to determine precision and error of closure. (3:3-0)

SRVY 1313 Plane Surveying (151102)

An introductory overview of surveying equipment and measurement techniques used in mapping. Emphasis on leveling and traversing for preparing a map. (3:2-3)

SRVY 1441 Land Surveying (151102)

A study of the measurement and determination of boundaries, areas, shapes, location through traversing techniques. Instruction in a variety of adjustment methods using programmed and non-programmed handheld calculators and computers. Methods of traversing and adjustment of errors according to prevailing and applicable professional standards. (4:3-3)

SRVY 2313 Control Surveying (151102)

Emphasis on field astronomy calculations, state plane coordinates and the reduction of information received from Global Positioning System receivers. Prerequisites: SRVY 1441. (3:3-0)

SRVY 2342 Global Positioning System Techniques for Surveying and Mapping (151102)

Introduction to the Global Positioning System (GPS) in surveying and mapping activities. Major topics include structuring a GPS system, designing a GPS data collection project using GPS data collection equipment, collecting and processing GPS data, and correcting data errors. Prerequisites: SRVY 2313. (3: 2-3)

SRVY 2343 Surveying Legal Principles I (151102)

The study of location, conveyance, ownership and transfer of real property under the laws of the State of Texas. Emphasis on the history of disposition of public land, interpreting written descriptions, dignity of calls and evidence, record search of public and private land records, and preparation of a deed record sketch. (3:3-0)

SRVY 2344 Surveying Legal Principles II (151102)

An advanced course in legal principles, retracement and boundary location with application of legal principles and rules of construction; writing survey reports and property descriptions; and a review of boundary law cases. Prerequisites: SRVY 2343. (3:3-0)

SRVY 2365 Practicum or Field Experience in Surveying (151102)

A basic intermediate type of non-health professions work based instruction that provides basic career exploration or helps students gain practical experience in the discipline, enhance skills, and integrate knowledge. The emphasis is on practical work experience. Indirect supervision is provided to the work supervisor. A practicum may be a paid or unpaid learning experience. Prerequisites: SRVY 1301, SRVY 2343, SRVY 1441, and SRVY 1313. (3:0-21)

SRVY 2440 Advanced Plane Surveying (151102)

Advanced computational skills and application of contemporary tools to the execution of surveying projects, mapping, and construction stakeout. Prerequisites: SRVY 2313. (4:3-3)

Gerontology Services

GERS 1301 Introduction to Gerontology (301101)

Overview of the social, psychological, and biological changes that accompany aging and the implications of these changes for the individual, as well as for the larger society. Prerequisite: Reading level 4 (3:3-0)

GERS 1303 Fitness and Wellness for Aging Populations (301101)

Healthy aging and wellness promotion for the older adult. Includes an overview of the aging process and its effect on major body systems. Also addresses various wellness practices, including lifestyle changes and exercise/nutrition planning. Emphasizes issues involving attitude and social interaction, as well as recommendations for home safety and personal security. Projects in wellness planning and resource location will be discussed. Prerequisite: Reading level 4 (3:3-1)

GERS 1345 Policies & Programs for Older Adults (190702)

Identifies the public policies and the resulting programs and services designed to address issues related to aging. Emphasis on maintaining independent living in the community for the elderly. Prerequisite: Reading level 4 (3:3-0)

GERS 1351 Sociology of Aging (301101)

Impact of aging on the larger society. Includes responses of various social institutions to the aged as well as the impact of an aging population on those institutions. Emphasizes the changing roles of the aged and the cultural attitudes toward the elderly. Prerequisite: Reading level 4 (3:3-0)

GERS 1402 Directing Activities in Long-Term Care Environments (190702)

Exploration of the role of the activity director in long-term care facilities across the continuum of care. Topics include the assessment of client needs, development of care plans, design of programs using therapeutic recreation techniques, and the supervision of recreated personnel. Prerequisite: Reading level 4. (4:3-3)

GERS 2330 Issues of Long-Term Care (190702)

Exploration of current information regarding a variety of long-term care settings for the elderly. Prerequisite: Reading level 4 (3:2-2)

GERS 2331 Contemporary Issues in Aging (301101)

Study of the impact of current issues related to aging. Emphasis on evidence-based practices involving current research focusing on the local region. Prerequisite: GERS 1301 or Instructor approval (3:3-0)

GERS 2333 Legal and Ethical Issues in Aging (190702)

Exploration of the legal and ethical issues that families must consider as family members age. Emphasis on advocacy for the elderly in providing legal and financial well-being as well as knowledge regarding the access of social and medical programs for the elderly. Prerequisite: Reading level 4. (3:3-0)

GERS 2360 Clinical-Gerontology (301101)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct Supervision is provided by the clinical professional. Prerequisite: 24 credit hours of certificate courses (GERS, HITT 1305, ITSC 1309). (3:0-18)

GERS 2366 Practicum-Gerontological Services (190702)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: 24 credit hours of certificate courses (GERS, HITT 1305, ITSC 1309) (3:0-21)

GERS 2371 Fundamental Applications of Long-Term Care (190702)

A thorough view of the role of various positions in the administrative structure in long-term care environments in the continuum of care. Examines the administrative structure in all types of continuous care facilities and describes each department's responsibilities and to whom those departmental personnel report. Topics include the explanation of the different departments of long-term care facilities, personnel and show how the individual departments fulfill the function of state, local and federal regulations. Course includes management theory, supervision, labor and public relations, Medicare, Medicaid, insurance liability, communications, employee training and motivation, and employer-employee relationships. Develops a keen awareness in quality indicators, and

how policies and procedures promote the common good of all in the long-term care environment. Prerequisite: 21 credit hours of certificate courses (GERS, HITT 1305, ITSC 1309) (3:3-0)

Government

GOVT 2301 United States and Texas Politics and Constitutions (4510025125)

(Formerly Government 234, GOVT 2314)
This course is an introductory survey of the United States and Texas political systems. Topics include a theoretical study of the discipline of political science, democratic and authoritarian systems, historical and environmental factors, the United States and Texas Constitutions, federalism and local units of government, public opinion, voting behavior, the electoral system, interest groups, and political parties. (Government 2301 satisfies the Legislative requirement of a course emphasizing the United States and Texas Constitutions.) The College recommends that a student earn a minimum of six hours of credit in history before taking government. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

GOVT 2302 United States and Texas Government Institutions: Legislative, Executive and Judicial Branches (4510025125)

(Formerly Government 235, GOVT 2315)
This course is an introductory survey of United States and Texas political systems. Topics include the executive, legislative, and judicial branches of government at both national and state levels. Other areas of investigation are civil rights, civil liberties, and criminal justice, as well as economic, social, regulatory, foreign, and defense policy. The College recommends that a student earn a minimum of six hours of credit in history before taking government. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

GOVT 2304 Introduction to Political Science (4510015225)

Introductory survey of the discipline of political science focusing on the history, scope, and methods of the field, and the substantive topics in the discipline. Prerequisites: GOVT 2301 and GOVT 2302. (3:3-0)

Health Information Management

HITT 1260 Clinical - Medical Billing (510707)

An advanced type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow in a clinical setting. Prerequisites: MDCA 1343, HITT 1370, HITT 1341, HITT 2346 (2:0-8)

HITT 1301 Health Data Content and Structure (510707)

Introduction to systems and processes for collecting, maintaining, and disseminating primary and secondary health related information. Instruction in delivery and organizational structure to include content of health record, documentation requirements, registries, indices, licensing, regulatory agencies, forms, and screens. Prerequisites: Reading Level 4, Writing Level 4. (3:3-0)

HITT 1305 Medical Terminology (510707)

Study of word origin and structure through the introduction of prefixes, suffixes, root words, plurals, abbreviations, and symbols, surgical procedures, medical specialties, and diagnostic procedures. Prerequisites: Reading Level 4, Writing Level 4. (3:3-0)

HITT 1341 Coding and Classification Systems (510703)

Application of basic coding rules, principles, guidelines, and conventions. Prerequisites: Reading Level 4, Writing Level 4. Prerequisites: HITT 1301, HITT 1305, HPRS 2301. (3:2-2)

HITT 1345 Health Care Delivery Systems (510707)

Introduction to organization, financing, and delivery of health care services, accreditation, licensure and regulatory agencies. Prerequisites: Reading Level 4, Writing Level 4. (3:3-0)

HITT 1353 Legal and Ethical Aspects of Health Information (510707)

Concepts of confidentiality, ethics, health care legislation and regulations relating to the maintenance and use of health information. Prerequisites: Reading Level 4, Writing Level 4. (3:3-0)

HITT 1355 Health Care Statistics (510707)

General principles of health care statistics with emphasis in hospital statistics. Skill development in computation and calculation of health data to include variability, probability, correlation and regression. Prerequisites: Reading Level 4, Writing Level 4, Math Level 4 (3:3-0)

HITT 1360 Clinical Coding (510707)

A health-related work-based learning experience that enables the coding student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: HITT 1341, HITT 2335, HITT 2346 (3:0-9)

HITT 1361 Clinical (510707)

A health-related work-based learning experience that enables the cancer data management student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: HITT 1372 and HITT 1373. (3:0-9)

HITT 1370 Advanced Medical Insurance (510707)

An advanced course with emphasis on ICD-9 and CPT coding of office procedures for payment and reimbursement by patient and third party. Prerequisites: MDCA 1343 (3:2-2)

HITT 1372 Cancer Data Management I (510707)

This course, an introduction to Cancer Data Management, includes cancer program requirements, the American College of Surgeons Cancer Program Survey process, and data collection/retrieval-abstracting coding, staging and reporting. Prerequisites: HITT 1301, HITT 1305, HPRS 2301, HITT 1374. (3:3-0)

HITT 1373 Cancer Data Management II (510707)

Continuation of HITT 1372. The student will gain hands-on experience in the application of health care practices. Skills to be utilized by students in this course include active listening, ability to develop and to articulate position statements, participation in class dialogue, willingness to listen to opinions/views that differ from one's own, and the willingness to change views when one's own has been found faulty using principles of reason. Prerequisites: HITT 1372 (3:3-0)

HITT 1374 Anatomy and Physiology (510707)

General overview of the normal structure and function of human body systems. Prerequisites: Reading level 4, Writing Level 4, Math Level 4 (3:3-1)

HITT 2249 RHIT Competency Review (510707)

Review of HITT competencies, skills, knowledge, and/or attitudes, and behavior pertinent to the technology and relevant to the professional development of the student. Prerequisite: Instructor Approval. (2: 1-2)

HITT 2335 Coding and Reimbursement Methodologies (510713)

Development of advanced coding techniques with emphasis on case studies, health records, and federal regulations regarding perspective payment systems and methods of reimbursement. Prerequisite: HITT 1341. (3:2-2)

HITT 2339 Health Information Organization and Supervision (510707)

Principles of organization, management, and supervision of human, fiscal, and capital resources in the health care setting. Prerequisites: Reading Level 4, Writing Level 4, Math Level 4 (3:3-0)

HITT 2343 Quality Assessment and Performance Improvement (510707)

Study of the many facets of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, compilation and presentation of data in statistical formats; quality tools; utilization management; risk management; and medical staff data quality issues. Prerequisites: Reading Level 4, Writing Level 4. (3:3-0)

HITT 2346 Advanced Medical Coding (510713)

In-depth coverage of ICO and CPT coding rubrics, conventions, principles, and updates as they apply to accurate coding of complex medical/surgical cases, with emphasis on case studies. Government regulations and changes in health care reporting will be addressed. Prerequisites: HITT 1301, HITT 1305, HPRS 2301 (3:3-0)

HITT 2360 Clinical I

A basic type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow in a clinical setting. Prerequisites: HITT 1301, HITT 1353 (3:0-9).

HITT 2361 Clinical II

An advanced type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow in a clinical setting. Prerequisites: HITT 2360, HITT 1341, HITT 1353, HITT 2339 (3:0-9).

HPRS 2301 Pathophysiology (510000)

Study of the pathology and general health management of diseases and injuries across the life span. Topics include etiology, symptoms, and physical and physiological reactions to diseases and injuries. Prerequisites: Reading Level 4, Writing Level 4. (3:3-0)

History

HIST 1301 American History Before 1877 (5401025125)

(Formerly History 131, HIST 1311)

A general survey of the history of the United States, European background, discovery, exploration, revolution, independence, federation, westward expansion, slavery, the Civil War, and Reconstruction. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

HIST 1302 American History Since 1877 (5401025125)

(Formerly History 132, HIST 1312)

A general survey of the history of the United States since Reconstruction, including industrialization, reform movements, emergence as a world power, participation in World War I and World War II, and other foreign and domestic developments up to the present. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

HIST 2301 History of Texas (5401025225)

(Formerly History 235, 2303, HIST 2315)

A general survey of the history of Texas under Spanish and Mexican control; the Republic, statehood, and the Confederacy; and Reconstruction Era, development of industries, agriculture and education. This course satisfies one-half of the legislative requirement of six semester hours in American history. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

HIST 2311 History of Western Civilization Before 1660 (European History) (5401015425)

(Formerly History 237, HIST 2317)

A survey of western civilization prior to 1660. Includes ancient and medieval background. The Renaissance, Reformation, rise of the monarchies, new discoveries, downfall of feudalism, and European expansion are also covered in the course. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

HIST 2312 History of Western Civilization Since 1660 (European History) (5401015425)

(Formerly History 238, HIST 2318)

A survey of world history with special emphasis on Europe from 1660 to the present. This course includes the Industrial Revolution, French Revolution, Congress of Vienna, age of Metternich, rise of democracy, Europeanization of the world, British Empire, World War I, World War II and present-day Europe. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

HIST 2321 World Civilization I (5401015325)

Survey of the political, social, economic, military, cultural, and intellectual development of ancient and medieval history with emphasis on Asian, African, and European cultures. Prerequisites: Reading Level 7 and Writing Level 7 (3:3-0).

HIST 2322 World Civilization II (5401015325)

Survey of the political, social, economic, military, cultural, and intellectual development of modern history and cultural of Asia, Africa, Europe, and the Americas. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

Inspection Technology

(See Non-Destructive Testing Technology)

Instrumentation Technology

Credit Courses

INTC 1301 Principles of Industrial Measurements (150404)

This course is a study of the principles and devices for the measurement of control variables such as temperature, pressure, flow, level, and basic control functions. Pressure topics will include atmospheric, absolute, gauge, differential and hydrostatic pressure. Temperature topics will include filled thermal systems, thermocouples, thermistors and the resistance temperature detector. Test equipment, setup, calibration, maintenance and safe work practices will be included. (3:2-2)

INTC 1309 Critique of Instrument and Control (150404)

(Not offered after Summer 2006 [200630]) An overview of instruments and control stressing preparation for industry employment testing and the National Institute of Engineering Technologist Certification (Level 2) or the Certified Control System Technician Certificate (Level 1&2). Prerequisite: sophomore standing or department chair approval. (3:3-0)

INTC 1312 Introduction to Instrumentation and Safety Technology (150404)

This course is an overview of industries employing instrument technicians. The course will also cover instrument safety techniques and practices as applied to the instrumentation field. Topics will include terminology, loop diagram symbols, documentation, basic measurement and control concepts, health, safety and environmental concerns and employment opportunities. (3:2-2)

INTC 1315 Control Valves (150404)

(Formerly INST 1312)

This course is a study of the various designs of final control elements including disassembly, assembly, calibration, troubleshooting, and required documentation. Instruction in basic techniques and calculations for proper valve sizing. Topics will include louvers, dampers, metering pumps, valve selection and an introduction to variable frequency drives as a final control element. Test equipment, setup, calibration, testing, maintenance and safe work practices will be included. (3:2-2)

INTC 1322 Analog Electronic Instrumentation I (150404)

This course is a review of basic electronic concepts related to measurement theory. Instruction is instrumentation calibrators and calibration circuits used for servicing and calibration of potentiometers, temperature transmitters and various transducers. Topics will include terminology, electrical symbols, electrical drawings, electrical connections and fittings, wire sizes, lighting, switches, circuit breakers, fuses, enunciators, annunciators, alarms and safety shutdowns. Test equipment, setup, calibration, testing, maintenance and safe work practices will be included. Prerequisite/Co-requisite: ELPT 1311. (3:2-2)

INTC 1341 Principles of Automatic Control (150404)

This course is a study of the theory of basic measurements, automatic control systems and design, closed loop systems, recorders, controllers, feedback, control modes and control configurations. Topics will include a study of process characteristics, control modes, control loop configurations, control loop analysis and controller tuning concepts. Computer based simulation will be used to reinforce the study learning objectives. Prerequisites: INTC 1301 and INTC 1315. (3:2-2)

INTC 1348 Analytical Instrumentation (1504040011)

(Formerly INST 2416)

This course is a study of analytical instruments emphasizing their utilization in process applications including chromatography, pH, conductivity, and spectrophotometer instruments. Analytical instrumentation is designed to be analytical solution utilizing analyzers, as applicable, to offline/online processing, risk management, health, environmental and personal safety in the process industries. Topics will include density, viscosity, conductivity, humidity/moisture, chromatography, spectroscopy, fugitive emissions and the flammable and explosive characteristics of solids, liquids and gases. (3:3-0)

INTC 1350 Digital Measurement and Controls (150404)

(Formerly INST 2413)

The topics in this course address a review of basic digital concepts including a study of the movement of digital data through common systems employing parallel and serial transfers using wire lines, fiber optic systems, and radio methods of transfer. Topics will include configuration and calibration of smart transmitters and an introduction to digital communications and networks. Test equipment, setup, calibration, testing, maintenance and safe work practices will be included. Prerequisites: ELPT 1311 and INTC 1341. (3:2-2)

INTC 1353 Analog Electronic Instrumentation II (150404)

This course will be a study of analog electronic controllers and complete electronic instrumentation systems. An introduction to discrete components and basic power supplies and amplifiers. Topics will include the industrial electrical distribution system, motor controls, electrical relay ladder logic and the variable frequency drive. Test equipment, setup, calibration, testing, maintenance and safe work practices will be included. Prerequisite: INTC 1322. (3:2-2)

INTC 1355 Unit Operations (150404)

This course is an in-depth study of industrial processes including fluid flow and material transport, distillation, extraction, and automatic control requirements of these processes. Instruction in control system design and control loop adjustments and analysis. Topics will include piping systems, pumps, compressors, agitators, tanks, heat exchangers, filters, cooling towers, refrigeration, filtration, adsorption, absorption, extruding, material handling and the distribution of utilities. Startup, operation, safe work practices and shutdown of a simulated or actual operating system will be included. (3:2-2)

INTC 1371 Distributed Control Systems (150404)

This course is designed to be a study of the philosophy and application of distributed control systems. Topics will include hardware, firmware, software, configuration, communications and networking requirements that are necessary to implement a distributed control strategy. How the measurement, control data acquisition and data analysis provides for enterprise resource planning and management. An operating system will be used to provide hands-on experience. Prerequisite: INTC 1353 and INTC 1372. (3:2-2)

INTC 1372 Principles of Industrial Measurement II (150404)

This course is designed to be a study of the physical principles and devices used to measure the process variables of level and flow. Level topics will include hydrostatic tank gauging, buoyancy, capacitance, ultrasonic, nuclear, radar and level as a function of weight. Flow topics will include variable area, differential pressure, positive displacement, turbine, magnetic, vortex shedder, mass, thermal and ultrasonic flow meters. Laboratory exercises will include calibration, repair, documentation and safe work practices associated with level and flow measurement, indicating and recording instruments. Test equipment, setup, calibration, testing, maintenance and safe work practices will be included. Prerequisites: INTC 1301, INTC 1353, and INTC 1315. (3:2-2)

INTC 1401 Principles of Industrial Measurements (150404)

(Formerly INST 1314)

(Not offered after Summer 2006 [200630])

A study of the principles and devices used for the measurement of control variables such as temperature, pressure, flow, level and basic control functions. (4:3-3)

INTC 1441 Principles of Automatic Control (150404)

(Formerly INST 1414)

(Not offered after Fall 2006 [200710])

A study of the theory of control room operations, automatic control systems and design, closed loop systems, recorder, controllers, positioners, feedback, on-off control, proportional, reset and rate responses, ratio and cascade controllers. Prerequisites: INTC 1401 and INTC 1315. (4:3-3)

INTC 1453 Analog Electronic Instrumentation II (150404)

(Formerly INST 2414)

(Not offered after Summer 2006 [200630])

A study of analog electronic controllers and complete electronic instrumentation systems. An introduction to discrete components and basic power supplies, amplifiers, and oscillator supports and assignments in printed circuit board testing. (4:3-3)

INTC 2330 Troubleshooting (150404)

This course is an in-depth coverage of the techniques of troubleshooting in a complex instrumented environment. Laboratory exercises require troubleshooting upsets in chemical processes. Topics will include examples and discussions of historical,

input/output and logical analysis as a methodology for solving problems. Prerequisites: INTC 1315, INTC 1353, INTC 1371, and INTC 1372. (3:2-2)

INTC 2333 Instrumentation & Installation (150404)

This course is an in-depth course in instrumentation technology that integrates material from previous courses including the process to design, size, install, connect and start up a small pilot plant. Prerequisites: INTC 1353 and INTC 1372. (3:2-2)

INTC 2339 Critique of Instrument and Control (150404)

This course is an overview of instruments and control stressing preparation for industry employment testing and either the National Institute of Engineering Technologist Certification (Level 2) or the Instrumentation Systems and Automatic Certified Control Systems Technician (Level I) Certificate (ISA CCST). This course will prepare graduating students with the background necessary to take the ISA Technician in Training certification examination and/or the NCCER (National Center for Construction Education and Research) Level I Technician examination. Prerequisites: INTC 1353 and INTC 1372. (3:3-0)

INTC 2388 Internship Instrumentation Technology/Technician (150404)

(Formerly INST 2340)

In this course the student will apply the theory, concepts, and skills involving specialized materials, tools, equipment, procedures, regulations, laws, and interactions within and among political, economic, environmental, social, and legal systems associated with the occupation and the business/industry and will demonstrate legal and ethical behavior, safety practices, interpersonal and teamwork skills, and appropriate written and verbal communication skills using the terminology for the occupation and the business/industry. Prerequisite: Department Chair Approval. (3:0-16)

INTC 2433 Instrumentation and Installation (150404)

(Not offered after Summer 2006 [200630])

A capstone course in instrumentation technology that integrates material from previous courses including the design process, sizing, installation, connection, and start up of a small pilot plant. Prerequisite: sophomore standing or department chair approval. (4:3-3)

ELPT 2319 Programmable Logic Controllers I (150404)

This course is a study in the fundamental concepts of programmable logic controllers, principles of operation and numbering systems as applied to electrical controls. Topics will include selection, installation, hardware, firmware, software, configuration, communication, networking, programming, documentation, modes of operation, troubleshooting and maintenance. Prerequisites: INTC 1353 and INTC 1372. (3:2-2)

RBTC 1401 Programmable Controllers (150404)

(Formerly INST 2315)

(Not offered after Summer 2006 [200630])

A study of programmable controllers. Topics include processor units, numbering systems, memory organization, relay type devices, timers, counters, data manipulators, and programming. Prerequisite: sophomore standing or department chair approval. (4:3-3)

Non-Credit Continuing Education Courses

INTC 1001 Principles of Industrial Measurements: Instrumentation 3 (150404)

(Continuing Education Course)

A study of the principles and devices used for the measurement of control variables such as temperature, pressure, flow, level, and basic control functions. 128 contact hours)

INTC 1003 Introduction to Instrumentation: 1B (150404)

(Continuing Education Course)

A survey of the instrumentation field and the professional requirements of the instrumentation technician. Topics include pneumatic, electronic, mechanic and hydraulic systems. (128 contact hours)

INTC 1043 Application of Industrial Automatic Controls: Instrumentation 2A (150404)

(Continuing Education Course)

A study of automatic process control including measuring devices, analog and digital instruments, signal transmitters, recorders, alarms, controllers, control valves, and process and instrument drawings. Includes connection and troubleshooting of loops. (90 contact hours)

INTC 1056 Instrumentation Calibration: Instrumentation 4A (150404)

(Continuing Education Course)

A study of techniques for calibrating electronic and pneumatic transmitters, controllers, recorders, valves, and valve positioners including, disassembly, assembly, alignment, and calibration of equipment. (75 contact hours)

INTC 1071 Mounted Instruments: Instrumentation 2B (150404)

(Continuing Education Course)

A progressive course for improving instrumentation skills by providing instruction for mounted instruments such as relays, timers, counters, switches, analyzers and primary sensing devices. (75 contact hours)

INTC 2031 Instrumentation Trouble Shooting: Instrumentation 4B (150404)

(Continuing Education Course)

A hands-on approach to the techniques of troubleshooting in an operating control system environment. Laboratory exercises require troubleshooting upsets in actual chemical processes. (78 contact hours)

Interior Design

INDS 1411 Fundamentals of Interior Design (500408)

(Formerly INTD 1411)

An introduction to the elements and principles of design, the interior design profession, and the interior design problem-solving process. (4:3-3)

INDS 1415 Materials, Methods and Estimating (500408)

(Formerly INTD 1414)

A study of materials, methods of construction and installation, and estimating for interior design applications. (4:3-3)

INDS 1445 Commercial Design I (500408)

(Formerly INTD 2416)

A study of design principles applied to furniture lay-out and space planning for commercial interiors. (4:3-3)

INDS 1449 Fundamentals of Space Planning (50008)

(Formerly INTD 2411)

The study of residential and light commercial spaces, including programming, codes, standards, space planning, drawings, and presentations. (4:3-3)

INDS 1451 History of Interiors I (500408)

(Formerly INTD 1312)

Historical survey of antiquities and European styles and periods of architecture, interiors, and furnishings. With consideration of Egypt, Greece, Italy, Spain, and France. (4:4-0)

INDS 1452 History of Interiors II (500408)

(Formerly INTD 2310)

Historical survey of English, American, Asian, and twentieth century styles and periods of architecture, interiors, and furnishings. (4:4-0)

INDS 2386 Internship-Interior Design (500408)

(Formerly INTD 2315)

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. (3:0-9)

INDS 2387 Internship-Interior Design (500408)

(Formerly INTD 2315)

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. (3:0-9)

INDS 2407 Textiles for Interior Design (500408)

(Formerly HOEC 146, FSHN 1401)

The study of interior design textiles, including characteristics, care, codes, and applications. (4:3-3)

INDS 2413 Residential Design I (500408)

(Formerly INTD 1416)

The study of residential spaces, including the identification of client needs, programming, standards, space planning, drawings, and presentations. (4:3-3)

INDS 2421 Presentation Drawing (500408)

(Formerly INTD 2412)

An introduction to two- and three-dimensional presentations, including drawings with one- and two-point perspectives, plans, and elevations. (4:3-3)

INDS 2425 Professional Practices for Interior Design (500408)

(Formerly INTD 2414)

A study of business practices and procedures for interior designers, including professional ethics, project management, marketing, and legal issues. (4:3-3)

IBUS 2431 Commercial Design II (500408) (Formerly INTD 2413)

Advanced concepts of specialized commercial interior design projects, including hospitality, corporate, retail, health care, institutional, or other specialized commercial design projects. (4:3-3)

IBUS 2435 Residential Design II (500408) (Formerly INTD 1415)

A comprehensive study of complex residential interior design problems, including advanced space planning, specifications, budgets, and presentation renderings (4:3-3)

International Business and Trade

IBUS 1301 Principles of Imports-Exports I (521101)

A study of export management processes and procedures. Topics include governmental controls, licensing of products, documentation, commercial invoices, and traffic procedures. Application to human and public relations, management of personnel, finance, and accounting procedures. Prerequisite: Reading Level 4. (3:3-0)

IBUS 1302 Principles of Imports-Exports II (521101)

The practices and processes of import management operations, including government controls. Skill development in the preparation and understanding of import documents such as customs invoices, packing lists, and commercial invoices. Prerequisites: Reading Level 4. (3:3-0)

IBUS 1305 Introduction to International Business and Trade (521101)

The techniques of entering the international marketplace. Emphasis on the impact and dynamics of sociocultural, demographic, economic, technological, and political-legal factors in the foreign trade environment. Topics include patterns of world trade, internationalization of the firm, and operating procedures of the multinational enterprise. Prerequisite: Reading Level 4. (3:3-0)

IBUS 2341 International Comparative Management (521101)

A study of cross-cultural comparisons of management and communications process. Emphasis on cultural geographic distinctions and antecedents that affect individual, group, and organizational behavior. Topics include sociocultural demographic, economic, technological, and political-legal environments of cluster countries and their relationship to organizational communication and decision making. Prerequisite: Reading Level 4. (3:3-0)

IBUS 2345 Import Customs Regulations (521101)

A study of the duties and responsibilities of the licensed customs broker or custom-house broker. Topics include processes for customs clearance, including appraisalment, bonded warehouse entry, examination of goods, harmonized tariffs, fees, bonding, penalties, quotas, immediate delivery, consumption and liquidation, computerized systems, laws, and regulations. Prerequisite: Reading Level 4. (3:3-0)

IBUS 2366 Field Experience-International Business (521101)

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. Prerequisite: 12 credit hours from IBUS courses: IBUS 1301, IBUS 1302, IBUS 1305, IBUS 2341, IBUS 2345, and 12 credit hours from the following: HRPO 1311, BUSI 2301, MRKG 1311, BUSI 1311, BMGT 1313, ITSC 1309. A GPA of at least 2.0 on prerequisite courses. An interview with the department chair and approval by the professor are required 60 days prior to enrolling. (3:1-20)

Journalism

(See Communications)

Language Skills

LANG 0111 Continuing Language Remediation (3201085335)

This course is required for students who have not passed a test for TASP purposes in the skill areas of either reading or writing but have demonstrated a college-level skill in both of the areas through other means. This course is required when the institution determines it is appropriate to meet the developmental needs of the student. (1:1-0)

Legal Assistant

(See Paralegal)

Management Development

(See Business Management and International Business and Trade)

Mathematics

Examinations for the purpose of placement will be required of students planning to enroll for the first time in a MATH course. To avoid delay during registration, students are advised to take these examinations prior to the date on which they plan to register. Students may call the Campus Testing Center for the dates on which these placement examinations will be given. Student are advised that MATH 1332 and MATH 1333 courses are not necessarily designed to transfer to a senior college for mathematics credit. However, these courses may be accepted in certain technology or liberal arts degree programs. A student planning to transfer individual mathematics courses to a senior college should follow the MATH sequence of courses or have a firm commitment from a four-year institution for transfer credit. For actual selection of courses, refer to a catalog of the receiving institution and/or confer with a counselor.

MATH 0109 Transitional Math Skills (3201045119)

A one-hour, remedial, self-paced mathematics course for students requiring continuous remediation as mandated by the Texas Success Initiative guidelines. Students will spend a minimum of 15 hours (at least one per week) in the developmental mathematics laboratory, using appropriate tutorial software. Topics covered will include all the math skills tested on the THEA. Self-paced instructional material will allow students to progress at their own rate. This course is not applicable toward any degree. Prerequisite: MATH Level 7. (1:0-1)

MATH 0304 Pre-Algebra (3201045119)

(Formerly Developmental Studies 1304, Developmental Mathematics 0304)
This is a pre-algebra course which integrates the study of integers, fractions, decimals, percents, ratio, and proportion with basic algebra. Additional topics covered include: measurement, estimation, elementary statistics, reasoning skills, number relationships, order of operations, and basic geometry. The emphasis in all topics is on their application to real life situations. This course is not applicable toward any degree. Prerequisite: Math Level 4. (3:3-1)

MATH 0305 Introductory Algebra (3201045119)

(Formerly Mathematics 130, MATH 1305)
This course is a study of the basic algebra of solving and graphing linear equations, inequalities, and systems. Other topics include formulas, literal equations, polynomials,

integral exponents, factoring, basic operations of radicals, and rational expressions. Algebraic and basic geometric applications are included. This course promotes critical thinking and problem-solving techniques. This course is not applicable toward any degree. Prerequisite: A grade of C or better in MATH 0304 or Math Level 6. (3:3-0)

MATH 0306 Intermediate Algebra (3201045212)

(Formerly Mathematics 131, MATH 1306, MATH 1312, Fundamentals of College Mathematics II) This course is a study of intermediate algebra, including sets, variation, polynomials, exponents, radicals, and functions. Studies of quadratic and rational equations and inequalities, as well as graphs of quadratics and other nonlinear equations and inequalities, are also included. The course emphasizes applications in both single- and multi-step real world problems. This course is not applicable toward any degree. Prerequisite: A grade of C or better in MATH 0305 or Math Level 7. (3:3-0)

MATH 1314 College Algebra (2701015419)

(Formerly Mathematics 132, MATH 1322) A course covering the following topics: algebraic skills, problem-solving/applications, equations and inequalities, graphing, relations and functions (including exponential and logarithmic), systems of equations, and matrices. Prerequisite: A grade of C or better in Math 0306 or Math Level 9. (3:3-0)

MATH 1316 College Trigonometry (2701015319)

(Formerly Mathematics 133, MATH 1323) Circular functions, identities, trigonometric equations, inverse functions, solution of triangles, graphing, polar coordinates, and complex numbers. Prerequisite: MATH 1314 or approval by department chair. (3:3-0)

MATH 1324 Finite Mathematics (2703015219)

(Formerly Mathematics 135, MATH 1325) Logic, sets, counting, probability, statistics, relations, functions, linear inequalities, matrices, introduction to linear programming, and applications. Prerequisite: MATH 1314 or approval by department chair. (3:3-0)

MATH 1325 Calculus with Applications (2703015219)

(Formerly Mathematics 136, MATH 1326) An introduction to special concepts and techniques of calculus which are of particular importance in the social and business sciences as well as technical fields. Topics covered will include differentiation, integration, applications, sequences

and series, concepts of limits, continuity, and maximum and minimum of a function. Prerequisite: MATH 1314 required, MATH 1324 preferred or approval by department chair. (3:3-0)

MATH 1332 College Mathematics for Liberal Arts (2701015119)

This course provides a broad background in the principles of mathematics necessary for understanding and appreciating topics found in other curricula. Topics include: mathematical models using polynomial, exponential and logarithmic functions; matrices; probability and statistics; logic; geometry; and mathematics of finance. Prerequisites: A grade of C or better in MATH 0306 or Math Level 9. (3:3-0)

MATH 1333 Contemporary Math for Tech (2701015119)

This course provides a broad background in principles and applications of mathematics found in many technical and vocational degree programs. Topics will include: a survey of equations (linear, quadratic, rational, exponential and logarithmic); geometry; trigonometry; relations and functions; statistics; matrices; and select applications. This course will satisfy the math requirement of the Associate of Applied Science degree, but does not satisfy the math requirement of the Associate of Arts, Associate of Science, or Associate of Arts in Teaching degree. Prerequisite: A grade of C or better in MATH 0305 or Math Level 7. (3:3-0)

MATH 1342 Statistics (2705015119)

(Formerly Mathematics 239, MATH 2319) An introduction to the use of statistics in business and computer science. Topics include descriptive statistics, probability distributions, estimation and statistical tests, and analysis of variance (ANOVA). Additional topics selected from regression and correlation, and non-parametric statistical methods. Prerequisite: MATH 1314. (3:3-0)

MATH 1350 Fundamentals of Mathematics I (2701015619)

(Formerly MATH 1335, Mathematics 137, MATH 1317) Concepts of sets, functions, numeration systems, number theory, and properties of the natural numbers, integers, rational, and real number systems with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek EC-8 teacher certification. Prerequisites: MATH 1314. (3:3-0)

MATH 1351 Fundamentals of Mathematics II (2701015619)

(Formerly MATH 1336, Mathematics 138, MATH 1318)

Concepts of geometry, probability, and statistics, as well as applications of the algebraic properties of real numbers to concepts of measurement with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek EC-8 teacher certification. Prerequisites: MATH 1350 or approval by department chair. (3:3-0)

MATH 2312 Elementary Functions (2701015819)

(Formerly Mathematics 231, MATH 2321) Study of elementary functions and their properties, including polynomial, rational, absolute-value, power, trigonometric, exponential and logarithmic functions; inverse functions; graphing; and analytic geometry including properties and graphs of lines, circles, and conic sections. Prerequisites: MATH 1314 and 1316 or approval by department chair. (3:3-0)

MATH 2318 Linear Algebra (2701016119)

(Formerly Mathematics 235, MATH 2335) Introductory course in linear algebra, covering concepts of finite dimensional vector spaces, linear independence and bases, linear transformations, matrices, determinants, real quadratic forms, eigenvalues and eigenvectors, as well as models and applications of these concepts. Prerequisite: MATH 2413. (3:3-0)

MATH 2320 Differential Equations (2703015119)

(Formerly Mathematics 236, MATH 2336) Differential equations of the first order, linear differential equations, Laplace transforms, existence theorems, nonlinear equations, solution by series, numerical solutions, and applications. Co-Requisite: MATH 2415. (3:3-0)

MATH 2413 Calculus I (2701015919)

(Formerly Mathematics 243, MATH 2422) Limits, continuity, and differentiation of algebraic, trigonometric and transcendental functions, with applications such as maximum/minimum problems and curve sketching; and definite and indefinite integration of algebraic, trigonometric and transcendental functions with applications such as area under a curve. Prerequisite: MATH 2312 or approval by department chair. (4:4-0)

MATH 2414 Calculus II (2701015919)

(Formerly Mathematics 243, MATH 2423)
Techniques and applications of integration, indeterminate forms, improper integrals, infinite and power series, parametric equations, and polar coordinates. Prerequisites: MATH 2312 and 2413. (4:4-0)

MATH 2415 Calculus III (2701015919)

(Formerly Mathematics 244, MATH 2424)
Differentiation of functions of several variables, multiple integration, vector analysis. Prerequisite: MATH 2414. (4:4-0)

Technical Mathematics

TMTH 1315 College Algebra with Applications (2701017437)

(Formerly Technical Mathematics 135)
(Not offered after Fall 2005 [200610])
A study of principles and methods of college algebra to solve physical problems in technical fields. Topics covered will include: equations in one variable, systems of equations, fractions and fractional equations, quadratic equations, polynomials, logarithmic and exponential equations, and plane analytical geometry. This course is intended for technical students seeking an associate of applied science degree. Students seeking an associate of arts degree should take MATH 1314. Prerequisite: MATH 0306 or Math Level 9. (3:3-0)

TMTH 1317 College Trigonometry with Applications (2701017337)

(Formerly Technical Mathematics 232, MATH 2312)
(Not offered after Fall 2005 [200610])
A study of trigonometric solutions of applied problems in technical fields using the triangular method. Topics covered will include trigonometric functions and identities. This course is intended for technical students seeking an associate of applied science degree. Students seeking an associate of arts degree should take MATH 1316. Prerequisite: TMTH 1315 or approval by department chair. (3:3-0)

Medical Assisting

MDCA 1220 Administrative Procedures I (510801)

A course in medical office procedures, including appointment scheduling, medical records creation and maintenance, phone communications, transcriptions, coding, billing, collecting, third party reimbursement, credit arrangements, and use of computer in the medical office. Prerequisite: Reading Level 4 (2:1-3)

MDCA 1221 Administrative Procedures II (510801)

A course in advanced medical office procedures, including appointment scheduling, medical records creation and maintenance, phone communications, transcriptions, coding, billing, collecting, third party reimbursement, credit arrangements, and use of computers in the medical office. Prerequisites: Reading Level 4 and MDCA 1220. (2:1-3)

MDCA 1254 Certified Medical Assisting Exam Review (510801)

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. Prerequisite: Reading Level 4 (2:1-2)

MDCA 1343 Medical Insurance (510801)

Emphasis on accurate ICD-9 and CPT coding of office procedures for payment/reimbursement by patient or third party. Additional topics may include managed care or medical economics. Prerequisites: Reading Level 4 and MDCA 1305. (3:2-2)

MDCA 1348 Pharmacology and Administration of Medications (510801)

Instruction on concepts and application of pharmacological principles. Focuses on drugs classification, principles and procedures of medication administration, mathematical systems and conversions, calculation of drug problems, and medicolegal responsibilities of a medical assistant. Prerequisite: Reading Level 4 (3:3-0)

MDCA 1371 Medical Assistant Interpersonal and Communication Skills (510801)

Emphasis on the application of basic psychological principles and the study of behavior, as they apply to special populations. This course includes such topics as developmental stages of the life cycle; principles of listening; and therapeutic, verbal, and non-verbal communication skills as they relate to the medical assistant role. Prerequisite: Reading Level 4. (3:3-0)

MDCA 1417 Procedures in a Clinical Setting (510801)

Emphasis on patient-centered assessment, examination, intervention, and treatment as directed by a physician. Includes vital signs, collection and documentation of patient information, asepsis, minor surgical procedures, and other treatments as appropriate for the medical office. Prerequisite: Reading Level 4, MDCA 1220 and MDCA 1371. (4:3-3)

MDCA 1560 Clinical (510801)

A basic, intermediate, or advanced type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experiences simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: Reading Level 4, MDCA 1221, and MDCA 1417. (5:0-15)

Medical Imaging Technology

CTMT 2332 Principles of Computed Tomography (510911)

(Formerly RADT 2335)
An introduction to the concepts and physical principles employed in computed tomography, this course emphasizes interactions between x-rays and matter and concepts of radiation detectors and digital imaging. Current knowledge and theory of the biological effects of x-rays are explored, with an emphasis on how they relate to data acquisition, image production, and control and manipulation of image production. Included also are quality control issues and factors involved in purchasing decisions. Prerequisite or Co-Requisite: RADR 2340. (3:3-0)

CTMT 2336 Computed Tomography Equipment and Methodology (510911)

(Formerly RADT 2345)
A study of the actual operation and operational control of computed tomographic equipment, this course focuses on routine protocols, image quality, and quality control of computed tomography. Theory and application of computed tomographic equipment and the principles of patient imaging techniques utilizing the equipment are covered. Prerequisites: RADR 2340, CTMT 2332. (3:3-0)

CTMT 2360 Clinical 1-Computed Tomography Technology/Technician (510911)

(Formerly RADT 2340)
An advanced type of 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. Close and/or direct supervision is provided by the clinical professional, in a clinical setting. Prerequisites: RADR 2340, CTMT 2332. (3:0-15)

CTMT 2361 Clinical 2-Computed Tomography Technology/Technician (510911)

(Formerly RADT 2350)

A continuation of CTMT 2360, this course also provides an advanced type of 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. Close and/or direct supervision is provided by the clinical professional in a clinical setting. Prerequisite: CTMT 2360, CTMT 2336. (3:0-15)

MRIT 2330 Principles of Magnetic Resonance Imaging (510911)

(Formerly RADT 2360)

This course builds a foundation of general principles for learning to operate a magnetic resonance imager. It focuses on building a sound understanding of the underlying scientific theory and routine clinical practice leading to magnetic resonance imaging. It emphasizes fundamental principles of magnetism and interactions of living matter with magnetic fields, as well as introducing the concepts and scientific principles employed in magnetic resonance imaging. Prerequisite or Co-Requisite: RADR 2340. (3:3-0)

MRIT 2334 Magnetic Resonance Equipment and Methodology (510911)

(Formerly RADT 2370)

This course is a study of the actual operation and operational control of magnetic resonance imaging equipment. It emphasizes theory, and application of that theory using magnetic resonance imaging equipment and the principles of patient imaging techniques. Prerequisite: RADR 2340, MRIT 2330. (3:3-0)

MRIT 2360 Clinical 1-Magnetic Resonance Imaging Technology/Technician (510911)

(Formerly RADT 2365)

This course is an advanced type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the work flow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional in a clinical setting. Prerequisite: RADR 2340, MRIT 2330. (3:0-18)

MRIT 2361 Clinical 2-Magnetic Resonance Imaging Technology/Technician (510911)

(Formerly RADT 2375)

A continuation of MRIT 2360, this course is also advanced health professions work-based instruction that helps students synthesize new knowledge, apply previous

knowledge, or gain experience managing the work flow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by clinical professionals in a clinical setting. Prerequisite: MRIT 2360 Co-Requisite: MRIT 2334. (3:0-18)

RADR 1260 Clinical-Medical Radiologic Tech I (510907)

(Formerly RADT 1401)

A method of instruction providing detailed education, training, work-based experience, and direct patient care, generally at a clinical site (hospital, etc.). This course is an introduction to the clinical environment with specific tasks to be accomplished during the semester enrolled. On site clinical instruction, supervision, evaluation, and placement are the responsibility of college faculty. Prerequisite: Acceptance into the Medical Imaging Technology/Radiography program. Co-Requisite: RADR 1309. (2:0-8)

RADR 1309 Introduction to Radiography and Patient Care (510911)

(Formerly RADT 1401)

This course includes the historical development of radiography, basic radiation protection, an introduction to medical terminology, ethical and legal issues for health care professionals, an orientation to the program and to the health care system, patient assessment, infection control procedures, communication and patient interaction skills, and basic pharmacology. Prerequisite: Acceptance into the Medical Imaging Technology/Radiography program. Co-Requisite: RADR 1260. (3:3-0)

RADR 1313 Principles of Radiographic Imaging I (510911)

(Formerly XRT 131, MRAD 1311, RADT 1311)

The course will analyze radiographic image qualities and the effects of exposure variables upon each image quality. Prerequisite: Acceptance into the Medical Imaging Technology/Radiography program. (3:3-1)

RADR 1317 Radiographic Anatomy and Physiology I (510911)

(Formerly RADT 1315)

This course develops the student's ability to relate basic human anatomy and physiology to the image. The localization and intensification of human anatomy on the radiographic image is emphasized. Prerequisite: Acceptance into the Medical Imaging /Radiography program. (3:3-1)

RADR 1318 Radiographic Anatomy and Physiology II (510911)

This course develops the student's ability to relate comprehensive human anatomy and physiology to the image. The advanced localization and intensification of human anatomy on the radiographic image is emphasized. Prerequisites: RADR 1260, RADR 1309, RADR 1313, RADR 1317, RADR 1411. (3:3-1)

RADR 1360 Clinical-Medical Radiologic Tech II (510907)

(Formerly XRT 133, MRAD 1313, MRAD 1212, RADT 1317)

A method of instruction providing detailed education, training, work-based experience and direct patient care, generally at a clinical site (hospital, etc.). This course is an continuation of the clinical environment, with specific tasks to be accomplished during the semester enrolled. Radiographic positioning and exposure will be emphasized during evaluation of examinations done by students. On site clinical instruction, supervision, evaluation, and placement are the responsibility of College faculty. Prerequisite: RADR 126, RADR 1309, RADR 1313, RADR 1317, RADR 1411. (3:0-16)

RADR 1411 Basic Radiographic Procedures (510911)

(Formerly XRT 141, MRAD 1411, RADT 1411)

This course includes 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 and related pathology. Prerequisite: Acceptance into Medical Imaging Technology/Radiography program. (4:3-3)

RADR 2117 Radiographic Pathology (510911)

An overview of the disease process and common diseases and their appearance on medical images. Prerequisite: RADR 2213, RADR 2362. Co-Requisite: RADR 2335, RADR 2363. (1:1-0)

RADR 2213 Radiation Biological Effects and Protection (510911)

(Formerly XRT 233, MRAD 2313, RADT 2313)

A study of the effects of radiation on biological systems, typical medical exposure levels, methods for measuring and monitoring radiation, and methods for protecting personnel and patients from excessive exposure. Prerequisite: RADR 2309, RADR 2333, and RADR 2361. (2:2-1)

RADR 2305 Principles of Radiographic Imaging II (510911)

(Formerly XRT 132, MRAD 1312, RADT 1312)
A continuation of the study of radiographic imaging technique formulation, image quality assurance, and the synthesis of all variables in image production. Prerequisite: RADR 1260, RADR 1309, RADR 1313, RADR 1317, RADR 1411. (3:3-1)

RADR 2309 Radiographic Imaging Equipment (510911)

(Formerly XRT 231, MRAD 2311, RADT 2311)
A study of the equipment and physics of X-ray production, basic X-ray circuits, basic electricity, magnetism, and interactions between X-rays and matter. Prerequisites: RADR 1360, RADR 2309. (3:3-1)

RADR 2333 Advanced Medical Imaging (510911)

(Formerly XRT 232, MRAD 2312, RADT 2312)
An introduction to the use of computers in medical imaging and a survey of specialized imaging modalities. Prerequisites: RADR 2360, RADR 2309. (3:3-0)

RADR 2335 Radiologic Technology Seminar (510911)

(Formerly XRT 234, MRAD 2314, RADT 2314)
This is a capstone course focusing on the synthesis of professional knowledge, skills, and attitudes in preparation for employment and lifelong learning. Prerequisites: RADR 2231, RADR 2362. Co-Requisites: RADR 2117, RADR 2363. (3:3-0)

RADR 2340 Sectional Anatomy for Medical Imaging (510911)

(Formerly RADT 2330)
This course presents an in-depth coverage of anatomic relationships that are present under various sectional orientations as depicted by computed tomography or magnetic resonance imaging. Prerequisite: ARRT registry eligible or certified in Radiology. (3:3-0)

RADR 2360 Clinical-Medical Radiologic Tech III (510911)

(Formerly XRT 134, MRAD 1314, RADT 1414)
A method of instruction providing detailed education, training, work-based experience and direct patient care, generally at a clinical site (hospital, etc.). This course is an continuation of the clinical environment, with specific tasks to be accomplished during the semester enrolled. Radiographic positioning and exposure will be emphasized during evaluation of examinations done by students. On site clinical instruction, supervision, evaluation, and placement are the responsibility of College faculty. Prerequisites: RADR 1360, RADR 1318, RADR 2305, RADR 2401. (3:0-18)

RADR 2361 Clinical-Medical Radiologic Tech IV (510911)

(Formerly XRT 242, MRAD 2412, MRAD 2317, RADT 2417)
A method of instruction providing detailed education, training, work-based experience and direct patient care, generally at a clinical site (hospital, etc.). This course is an continuation of the clinical environment, with specific tasks to be accomplished during the semester enrolled. Radiographic positioning and exposure will be emphasized during evaluation of examinations done by students. On site clinical instruction, supervision, evaluation, and placement are the responsibility of College faculty. Prerequisites: RADR 2309, RADR 2360. (3:0-18)

RADR 2362 Clinical-Medical Radiologic Tech V (510911)

(Formerly XRT 243, MRAD 2413, RADT 2418)
A method of instruction providing detailed education, training, work-based experience and direct patient care, generally at a clinical site (hospital, etc.). This course is an continuation of the clinical environment, with specific tasks to be accomplished during the semester enrolled. Radiographic positioning and exposure will be emphasized during evaluation of examinations done by students. On site clinical instruction, supervision, evaluation, and placement are the responsibility of College faculty. Prerequisites: RADR 2333, RADR 2361. (3:0-18)

RADR 2363 Clinical-Medical Radiologic Tech VI (510911)

(Formerly XRT 235, MRAD 2315, RADT 2415)
A method of instruction providing detailed education, training, work-based experience and direct patient care, generally at a clinical site (hospital, etc.). This course is an continuation of the clinical environment, with specific tasks to be accomplished during the semester enrolled. Radiographic positioning and exposure will be emphasized during evaluation of examinations done by students. On site clinical instruction, supervision, evaluation, and placement are the responsibility of College faculty. Prerequisites: RADR 2213, RADR 2362. (3:0-18)

RADR 2401 Intermediate Radiographic Procedures (510911)

(Formerly XRT 142, MRAD 1412, RADT 1412)
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

intermediate anatomy and related pathology. Prerequisites: RADR 1260, RADR 1309, RADR 1313, RADR 1317, RADR 1411. (4:3-3)

Medical Laboratory Technology

HPRS 1106 Medical Terminology (510000)

(Formerly MELT 1102)
A study of word origin and structure through the introduction of prefixes, suffixes, root words, plurals, abbreviations and symbols, surgical procedures, medical specialties, and diagnostic procedures. (1:1-0)

HPRS 1191 Special Topics in Allied Health-Clinical Lab Assistant (510000)

Topics address recently identified current events, skills, knowledge and /or attitudes and behaviors pertinent to the occupation and relevant to the professional development of the student. The student will learn to utilize critical thinking skills to evaluate relevant journal articles and case studies. Various professional organizations will be discussed. The value of continuing education and opportunities such education affords will be stressed. The student will be introduced to the computer resources available for the field. Prerequisite: HPRS 1391. (1:1-0).

HPRS 1391 Special Topics in Allied Health-Clinical Lab Assistant (510000)

Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the occupation and relevant to the professional development of the student. The student will learn how to perform waived tests and aid the technologists in the clinical laboratory. Topics to be addressed include microbiology, hematology, serology and urinalysis, as well as specimen processing. The importance of safety and patient confidentiality will be emphasized. The student will also learn how to screen donors for blood bank donations. Prerequisite: PLAB 1223. Prerequisite or Co-requisite: PLAB 1166. (3:2-2).

MLAB 1201 Introduction to Clinical Laboratory Science (511004)

An introduction to clinical laboratory science, including quality control, laboratory math, safety, basic laboratory equipment, laboratory settings, accreditation, and certification. (2:2-1)

MLAB 1227 Coagulation (511004)

A course in coagulation theory, procedures, and practical applications. Includes laboratory exercises which rely on commonly performed manual and semiautomatic methods. Prerequisite or Co-Requisite: MLAB 1201. (2:2-1)

MLAB 1231 Parasitology/Mycology (511004)

A study of the taxonomy, morphology, and pathogenesis of human parasites and fungi, including the practical application of laboratory procedures. Prerequisite: MLAB 2434. (2:2-1)

MLAB 1235 Immunology/Serology (511004)

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. Prerequisite or Co-Requisite: MLAB 1201. (2:2-1)

MLAB 1311 Urinalysis and Body Fluids (511004)

(Formerly MELT 1310)

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. Prerequisite or Co-Requisite: MLAB 1201. (3:2-2)

MLAB 1415 Hematology (511004)

(Formerly MELT 1411)

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. Prerequisite or Co-Requisite: MLAB 1201. (4:3-4)

MLAB 2166 Practicum I-Medical Laboratory Technician (511004)

(Formerly MELT 2200)

Practical general training and experiences in the workplace. The College and the employer develop and document an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. This course may be repeated if topics and learning outcomes vary. Prerequisite: MLAB 2434. (1:0-9)

MLAB 2266 Practicum II-Medical Laboratory Technician (511004)

(Formerly MELT 2301)

Practical general training and experiences in the workplace. The College and the employer develop and document an individualized plan for the student. The plan relates

the workplace training and experiences to the student's general and technical course of study. This course may be repeated if topics and learning outcomes vary. Prerequisite: MLAB 2431. (2:0-17)

MLAB 2267 Practicum III-Medical Laboratory Technician (511004)

(Formerly MELT 2302)

Practical general training and experiences in the workplace. The College and the employer develop and document an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. This course may be repeated if topics and learning outcomes vary. Prerequisite: MLAB 2501. (2:0-17)

MLAB 2338 Advanced Topics in Medical Laboratory Technician (511004)

(Formerly MLAB 1391)

This course examines the integration of all areas of the clinical laboratory and correlates laboratory test data with diagnostic applications and pathophysiology using critical thinking skills. This capstone course provides the student with the synthesis of knowledge and skills in preparation for professional employment and establishes the framework for continuous growth in the Medical Laboratory Technology field. Prerequisite: MLAB 2434 and MLAB 2266. (3:3-0)

MLAB 2431 Immunohematology (511004)

(Formerly MELT 2411)

A study of blood antigens and antibodies. Performance of routine blood banking procedures, including blood group and Rh typing, antibody screens, antibody identification, crossmatching, elution, and absorption techniques. Prerequisite: MLAB 1235. (4:3-4)

MLAB 2434 (Clinical) Microbiology (511004)

(Formerly MELT 1412)

Instruction in the theory, practical application, and pathogenesis of clinical microbiology, including collection, setup, identification, susceptibility testing, and reporting procedures. Prerequisite or Co-Requisite: MLAB 1201. (4:3-4)

MLAB 2501 (Clinical) Chemistry (511004)

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 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, enzymes, metabolites, endocrine function, and toxicology. Prerequisite: MLAB 1201. (5:3-6)

PLAB 1166 Practicum Phlebotomy (511009)

Practical, general workplace training supported by an individualized learning plan developed by the employer, the college and the student. Prerequisite: PLAB 1223 (1:0-8).

PLAB 1223 Phlebotomy (511009)

(Formerly MLAB 1223)

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; and specimen handling, processing, and accessioning. Topics include professionalism, ethics and medical terminology. (2:2-1)

SCIT 1495 Special Topics in Analytical Chemistry (400502)

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. Introduces basic chemistry principles such as the periodic classification of elements, structure of matter, chemical bonding, formulas and chemical reactions. Presents properties of acids and bases and their application in the clinical setting. Also includes a brief introduction to organic chemistry, structures of carbohydrates, lipids and proteins. Relates topics to their significance in the performance of laboratory testing as well as human health and body function. Prerequisite: MLAB 1201. (4: 4-0).

Mental Health Services Program

CMSW 1341 Behavior Modification and Cognitive Disorder (511503)

In depth study of the theories and principles of behavioral science and skill development in the methods of modifying and controlling behavior in clinical and personal settings. Emphasis on techniques such as managing self-behavior. Topics include stimulus controls, shaping, relaxation training, reinforcement scheduling and token economics.

Covers basic understanding of psychosomatic drugs and their effects on behavior in both treatment and recovery. Prerequisites: Reading Level 6, Writing Level 6 (3:3-0)

DAAC 1304 Pharmacology of Addiction (511501)

Psychological, physiological, and sociological effects of mood altering substances and behaviors. Emphasizes pharmacological effects of tolerance, dependence/withdrawal, cross addiction, and drug interaction. Prerequisites: Reading Level 6, Writing Level 6 (3:3-1)

DAAC 1311 Counseling Theories (511501)

Major theories and current treatment modalities. Prerequisites: Reading Level 6, Writing Level 6 (3:3-0)

DAAC 1311 Counseling Theories (511501)

Major theories and current treatment modalities. Prerequisites: Reading Level 6, Writing Level 6. (3:3-0)

DAAC 2307 Addicted Family Intervention (511501)

The family as a dynamic system focusing on the effects of addiction on family roles, rules, and behavior patterns. Includes the effects of mood altering substances, behaviors, and therapeutic alternatives as they relate to the family from a multicultural and transgenerational perspective. Prerequisite: DAAC 1304 (3:3-1)

DAAC 2341 Counseling Alcohol and Other Drug Addictions (511501)

Special skills and techniques in the application of counseling skills for the Alcohol and Other Drug (AOD) client. Development and utilization of advanced treatment planning and management. Includes review of confidentiality and ethical issues. Prerequisites: Reading Level 6, Writing Level 6 (3:3-0)

DAAC 2366 Practicum–Substance Abuse/Addiction Counseling (511501)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: Must complete 28 hours in the program before the practicum (3:0-21)

DAAC 2366 Practicum–Substance Abuse/Addiction Counseling (511501)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: Must complete 28 hours in the program before the practicum (3:0-21)

PMHS 2366 Practicum–Mental Health Services Technician (511502)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This technical course satisfied a requirement for the Mental Health Technician Certificate of Technology and Mental Health Clinical Counseling and Psychology Associate of Applied Science degree, but does not satisfy a psychology requirement for the Associate of Arts, Associate of Science or Associate of arts in Teaching degree. Prerequisites: Must complete 28 hours in the program before the practicum (3:0-21)

PSYT 1371 Mental Health Legal and Ethical Issues (420201)

Concepts of confidentiality, ethics, mental health legislation, and regulation relating to the maintenance and use of mental health and substance abuse information and medical records. Prerequisite: Reading Level 6, Writing Level 6 (3:3-0)

PSYT 2301 Psychology of Group Dynamics (420601)

A study of the patterns and dynamics of group interactions. Topics include a psychosocial approach to group behavior, structure, types, stages, roles, leadership of group activities, and facilitation. This technical course satisfies a requirement for the Mental Health Technician Certificate of Technology and Mental Health Clinical Counseling and Psychology Associate of Applied Science degree, but does not satisfy a psychology requirement for the Associate of Arts, Associate of Science or Associate of Arts in Teaching degree. Prerequisite: PSYC 2301 (3:3-0)

PSYT 2321 Crisis Intervention (420601)

A study of the principles and theories of assisting the individual in a crisis situation. Topics include coping skills to increase potential reinstatement of equilibrium to an individual's lifestyle and suicide prevention. Prerequisite: PSYC 2301 (3:3-0)

PSYT 2331 Abnormal Psychology (420201)

The study of the theories and processes involved in the diagnosis and treatment of mental disorders. Prerequisites: PSYC 2301 (3:3-0)

PSYT 2339 Counseling Theories (420601)

An examination of major theories of various treatment modalities. Topics include reality therapy, psychodynamics, grief therapy, person-centered therapy, rational emotive therapy, and cognitive behavioral approaches. Prerequisites: Reading Level 6, Writing Level 6 (3:3-0)

SCWK 2301 Assessment and Case Management (440701)

Exploration of procedures to identify and evaluate an individual's and/or family's strengths, weaknesses, problems, and need in order to develop an effective plan of action. Topics include oral weaknesses, problems, and needs in order to develop an effective plan of action. Topics include oral and written communications essential for assessment, screening, intervention, prevention, case management and referral. Prerequisites: Reading Level 6, Writing Level 6 (3:3-0)

SOCW 2361 Introduction to Social Work (4407015124)

Development of the philosophy and practice of social work in the United States, survey of the fields and techniques of social work. This is an introductory social work course in which students learn about the profession of social work, practice, ethics, and values, roles and responsibilities and various fields of social work and practice, diverse client populations, populations at risk, and the generalist perspective of social work practice. This course also includes a 40-hour integrated agency-related volunteer experience. Prerequisites: Reading Level 6, Writing Level 6 (3:3-0)

Military Science

(Offered through the University of Houston, Military Science Department)

MSCI 1125:1126 Physical Readiness Training Cr. I

Open to all students. Utilizes Army fitness techniques; develops strength, flexibility and endurance; develops self-confidence through leadership training and physical activities. (1:0-3)

MSCI 1131 Advanced Physical Fitness Course

Physically demanding. Develops skills through team competition. Land navigation, assembly/disassembly of weapon, tactics, assembly of one-man rope bridge. Students are also required to attend fitness training 5 times a week. Participants compete for Ranger Challenge slots. Selected cadets compete against teams from other teams at the annual Ranger Challenge competition. Prerequisite: Must be ROTC cadet. (1:0-3)

MSCI 1210 Introduction to ROTC

Learn fundamental concepts of leadership in both classroom and outdoor laboratory environments. Increase self-confidence through team study and activities in basic drill, physical fitness, repelling, first aid, and basic marksmanship. Develop communication skills to improve individual performance and group interaction. One hour classroom session and a required lab. No military commitment is required for attending this course. (2:1-2)

MSCI 1220 Introduction to Leadership

Learn fundamental concepts of leadership in both classroom and outdoor laboratory environments. Increase self-confidence through team study and activities in basic drill, physical fitness, repelling, first aid, and basic marksmanship. Develop communication skills to improve individual performance and group interaction. One hour classroom session and required lab. No military commitment is required for attending this course. (2:1-2)

MSCI 1131 Intermediate Physical Fitness Course

Physically demanding. Develops skills through team competition. Land navigation, rifle marksmanship, tactics, and assembly of one rope bridge. Students are also required to attend fitness training. Selected cadets compete against teams from other universities. Prerequisite: Must be ROTC cadet. (1:0-3)

MSCI 2210:2220 Military Leadership Development

Characteristics of leadership, problem analysis, decision making, oral presentations, first aid, small unit tactics, land navigation basic radio communication, marksmanship, fitness training, repelling. Fitness training required two times per week in addition to class and lab. (2:0-2)

MSCI 2810 Basic Camp (Formerly MSCI 2410)

No military obligation is associated with this course. Student will not receive credit for both basic course work and Basic Camp. Six week off-campus field training practicum. Introduces students to the Army and leadership. Prerequisite: Approval of the department chair. (8:0-8)

Music

MUSB 1305 Survey of Music Business (5009098445)

(Formerly MGMT 2329)

An overview of the music industry including song writing, live performance, the record industry, music merchandising, contracts and licenses, and career opportunities. (3:3-0)

MUSC 1323 Audio Electronics Troubleshooting (100203)

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 (3:2-2)

MUSC 1327 Audio Engineering I (100203)

(Formerly MUSI 2371)

An overview of the modern recording studio and related personnel. Topics include basic studio electronics and acoustic principles, wave form and analysis, microphone concepts and miking techniques, studio setup and signal flow, recording console theory, signal processing concepts, tape machine principles and operation, and overview of mixing and editing. (3:3-1)

MUSC 1331 Musical Instrument Digital Interface (100203)

(Formerly MUSI 2273)

(Not offered after Fall 2003 [200410])

An overview of Musical Instrument Digital Interface (MIDI) systems and applications. Topics include the history and evolutions 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. Prerequisites: MUSI 1301, MUSI 1181. (3:2-2)

MUSC 2101 Audio Engineering Practices (100203)

(Formerly MUSI 2173)

A practical application of the concepts, techniques and procedures presented in Audio Engineering I and Audio Engineering II. The students will be divided into several working units comprised of 3-4 students per unit. Each group will be required to complete two recording projects during the semester. May be repeated for credit up to 3 times if topics and learning outcomes vary. Prerequisite: MUSC 2427. (1:0-3)

MUSC 2343 Audio Engineering Electronics Troubleshooting (100203)

(Formerly MUSI 1270)

(Not offered after Fall 2005 [200610])

Advanced concepts in troubleshooting and diagnosing audio problems. Topics include soldering techniques, audio electronic alignment procedures for tape machines, console maintenance, and sound reinforcement equipment maintenance. (3:2-2)

MUSC 2355 Musical Instrument Digital Interface II (100203)

A continuation of MIDI I with emphasis on advanced sequencer operation and SMPTE-based synchronization in the interaction of multiple recording and playback systems. Topics also include synthesis and its relation to software and hardware devices, sampling and sampling manipulation utilizing software sequencers, and sequencing for video. The student will perform advanced MIDI techniques, execute multi machine synchronization and demonstrate advanced use of software based sequencing, synthesis and sampling devices. Prerequisite: MUSC 1331. (3:2-2)

MUSC 2386 Internship-Recording Arts Technology/Technician (100203)

(Formerly MUSI 2375)

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 to the student's general technical course of study. The guided external experiences may be for pay or no pay. This course may be repeated if topics and learning experiences vary. Prerequisites: MUSC 2447, MUSC 2355). (3:0-18)

MUSC 2427 Audio Engineering II (100203)

(Formerly MUSI 2472)

A continuation of Audio Engineering I with emphasis on implementation of techniques and theories of the recording process. Topics include applications of microphones, the audio console, the multi-track tape recorder, and signal processing devices in the recording session environment. Prerequisite: MUSC 1327. (4:3-3)

MUSC 2447 Audio Engineering III (100203)

(Formerly MUSI 2474)

Presentation of advanced procedures and techniques utilized in recording and manipulating audio information. Topics include advanced computer-based console automation, hard disk-based digital audio editing, nonlinear digital multi-track recording, and advanced engineering projects. Prerequisite: MUSC 2427. (4:3-3)

MUSI 1110 Perspective in Jazz (5009025330)

(Formerly Music 117, 1117)

Course will discuss topics related to jazz, with special emphasis on its development and contribution to American culture. Structured for the student interested in jazz music. (1:1-0)

MUSI 1163 Jazz Improvisation I (5009036526)

(Formerly Music 115, 1115)

Course designed to provide background knowledge of basic materials and skills used in improvising jazz solos. Jazz improvisation is structured for any student with a performing medium in music. Prerequisite: knowledge of all major scales. (1:1-2)

MUSI 1164 Jazz Improvisation II (5009036526)

(Formerly Music 116, 1116)

A continuation of MUSI 1163. Prerequisite: MUSI 1163 or professor's approval. (1:1-2)

MUSI 1188 Class Percussion I (5009035126)

Class instruction in the fundamental techniques of playing percussion. The course is designed for the student with little or no background in music with the basic information and techniques necessary to read and perform simple repertoire. (1:1-1)

MUSI 1211 Theory of Music I (5009045126)

(Formerly Music 121)

A study of the fundamentals of musicianship, including aspects of notation and part-writing. Prerequisites: approval of the professor and concurrent enrollment in appropriate ear training course and piano, unless a waiver is granted by the professor. (2:3-0)

MUSI 1212 Theory of Music II (5009045126)

(Formerly Music 122)

A continuation of MUSI 1211. Prerequisite: MUSI 1211 or the professor's approval and concurrent enrollment in an ear training course and piano. (2:3-0)

MUSI 1216 Ear Training and Sight Singing I (5009045626)

(Formerly Music 123, 1213)

Basic aural, visual and vocal experience in the form of dictation and sight singing. Prerequisites: approval of the professor and concurrent enrollment in an appropriate theory course and piano. (2:3-0)

MUSI 1217 Ear Training Sight Singing II (5009045626)

(Formerly Music 124, 1214)

A continuation of MUSI 1216. Prerequisite: MUSI 1216 or the professor's approval and concurrent enrollment in a theory course and piano. (2:3-0)

MUSI 1290 Electronic Music (5009045826)

Introduction to the use of synthesizers, computers, sequencing, music printing software, multi-track recorders and other MIDI (Music Instrument Digital Interface) devices in notation, arrangement, composition, and performance of music. Course may be repeated once for credit. Prerequisite: MUSI 1301, class or applied piano, or the professor's approval. (2:1-2)

MUSI 1301 Music Fundamentals (5009045526)

(Formerly Music 135)

Designed to familiarize students with the meaning of musical notation through the study of scales, chords and rhythm. Especially adapted for students preparing to become teachers, and other students who wish to gain a broader knowledge of music. (3:3-0)

MUSI 1306 Listening to Music (5009025126)

(Formerly Music 136, 1302)

A non-technical approach to the enjoyment of music. Emphasis is on an intelligent listening procedure with materials from standard vocal, instrumental and keyboard literature. (3:3-0)

MUSI 1307 Survey of Music Literature (5009025226)

(Formerly Music 125, 1215)

A course for music majors on the fundamentals of music terminology and standard instrumental and vocal forms. Representative composers and compositions from secular and sacred music of the major eras are studied by means of records and live performance. Prerequisites: Reading Level 6. (3:3-0)

MUSI 1310 American Popular Music (5009025326)

A study of the evolution of popular American music styles which have proven to be a powerful reflection of American culture. The course will provide a survey of music created, performed, and reflective of a unique American style, including jazz, ragtime, New Orleans style, swing and subsequent jazz styles American folk and popular music, the American musical theater, and rock and roll. (3:3-0)

MUSI 2211 Theory of Music III (5009045226)

(Formerly Music 221)

A continuation of the first-year theory course. Written and keyboard harmonic analysis. Prerequisites: MUSI 1212 or approval of the professor, and concurrent enrollment in an ear training course and piano. (2:3-0)

MUSI 2212 Theory of Music IV (5009045226)

(Formerly Music 222)

A continuation of MUSI 2211. Prerequisite: MUSI 2211 and concurrent enrollment in ear training course and piano. (2:3-0).

MUSI 2216 Ear Training and Sight Singing III (5009045726)

(Formerly Music 223, MUSI 2213)

A continuation of the first-year course in ear training and sight singing. Prerequisites: MUSI 1217. Co-Requisite: Concurrent enrollment in an appropriate theory course and piano. (2:3-0)

MUSI 2217 Ear Training and Sight Singing IV (5009045726)

(Formerly Music 224, MUSI 2214)

A continuation of MUSI 2216 Prerequisite: MUSI 2216. Co-Requisite: Concurrent enrollment in an appropriate theory course and piano. (2:3-0)

Musical Organizations

MUEN 1121 Instrumental Ensemble (5009035526)

(Formerly MUSI 1174)

Membership is open to all students on the basis of audition and/or conference. Instruments may include all orchestra instruments. The instrumental ensemble meets three laboratory hours per week with special rehearsals called as needed. Course may be taken a maximum of six times for credit. (1:0-3)

MUEN 1122 Concert Band (5009035526)

(Formerly Concert Band 111, 112, 211, 212, 213, 214 and MUSI 1171)

Membership is open to all students on the basis of audition and/or conference. Performance literature represents many styles of music. Concert band meets three hours per week, with special rehearsals called as needed. Course may be taken a maximum of six times for credit. (1:0-3)

MUEN 1124 Wind Ensemble (5009035526)

(Formerly MUSI 1173)

Membership is open to all students on the basis of audition and/or conference. Performance literature represents many styles of music, making wind ensemble interesting and enjoyable. The wind ensemble meets three hours per week, with special rehearsals called as needed. This course may be repeated a maximum of six times for credit. (1:0-3)

MUEN 1125 Jazz Ensemble (5009035526)

(Formerly Jazz Band 111, 112, 211, 212, 213, 214 and MUSI 1172)

Membership is open to all students on the basis of audition and/or conference. Instruments in the jazz ensemble include trumpets, trombones, saxophones, clarinets, flutes, piano, bass, guitar and drums. Performance literature represents many styles of music: big band jazz, swing, Latin jazz, and jazz/rock. The jazz ensemble meets three hours per week, with special rehearsals called as needed. Course may be taken a maximum of six times for credit. (1:0-3)

MUEN 1131 Small Instrumental Ensemble (5009035626)

(Formerly MUSI 1175)

Membership is open to all students on the basis of audition and/or conference. Instruments in the small instrumental ensemble may vary from semester to semester. The small instrumental ensemble meets three laboratory hours per week, with special rehearsals called as needed. This course may be taken a maximum of six times for credit. (1:0-3)

MUEN 1141 College Choir (5009035726)

(Formerly College Choir 111, 112, 211, 212, 213, 214 and MUSI 1182)

Membership is open to all students on the basis of audition and/or conference. The College Choir performs many styles of sacred and secular literature. This course may be taken a maximum of six times for credit. (1:0-3)

MUEN 1143 Concert Choir (5009035726)

(Formerly Concert Choir 111, 112, 211, 212, 213, 214 and MUSI 1181)

Membership is open to all students on the basis of audition. This group has a limited membership which performs serious and entertaining music throughout the semester. Students enrolled in this group are also expected to enroll in the College Choir. This course may be taken a maximum of six times for credit. (1:0-3)

MUEN 1154 Small Vocal Ensemble (5009035726)

(Formerly MUSI 1185)

Membership is open to all students on the basis of audition and/or conference. This group has a limited membership which performs serious and entertaining music throughout the semester. Compositions performed may include those for madrigals, duets, trios, quartets, sextets, or other small vocal ensembles. Students enrolled in this course are also expected to enroll in MUSI 1141 (College Choir). This course may be taken a maximum of six times for credit. (1:0-3)

MUSI 1159 Music Theater Production (5009036126)

Membership is open to all students on the basis of audition and/or conference. Students enrolled in this course will present a musical theater production at the end of this course and /or will prepare and perform quality musical theater literature. Students with leading roles also will be expected to concurrently enroll in DRAM 1120 (Rehearsal and Performance). This course may be taken a maximum of two times for credit. (1:0-4.5)

Applied Music Courses

MUSI 1181 Class Piano I (5009075126)

(Formerly PIAN 1181, PIAN 1161)

Beginning class piano equips students with little or no background in music with the basic information and techniques necessary to read and perform simple music at the keyboard. Subsequent classes build upon and refine the information and techniques. (1:1-1)

MUSI 1182 Class Piano II (5009075126)

(Formerly PIAN 1182, PIAN 1162)

A continuation of Class Piano I. (1:1-1)

MUSI 1183 Class Voice I (5009085126)

(Formerly VOIC 1183, VOIC 1161)

Class Voice begins with instruction in the fundamentals of correct breathing, tone production and diction. It is a course designed for students with little or no previous training to aid in developing a pleasing tone quality produced with ease and proper enunciation. Additional semesters expand and sharpen these skills in a sequential pattern. (1:1-1)

MUSI 1184 Class Voice II (5009085126)

(Formerly VOIC 1184, VOIC 1162)

A continuation of Class Voice I. (1:1-1)

MUSI 1192 Class Guitar I (5009035126)

Beginning class guitar is intended to develop student skills in applied music theory, sight-reading, performance and technique on the instrument. The class is for beginning-to-intermediate level students with limited experience. (1:1-1)

MUSI 1193 Class Guitar II (5009035126)

A continuation of Class Guitar I. (1:1-1)

MUSI 2181 Class Piano III (5009075126)

(Formerly PIAN 2181, PIAN 2161)

A continuation of Class Piano II. (1:1-1)

MUSI 2182 Class Piano IV (5009075126)

(Formerly PIAN 2182, PIAN 2162)

A continuation of Class Piano III. (1:1-1)

MUSI 2183 Class Voice III (5009085126)

(Formerly VOIC 2183, VOIC 2161)

A continuation of Class Voice II. (1:1-1)

MUSI 2184 Class Voice IV (5009085126)

(Formerly VOIC 2184, VOIC 2162)

A continuation of Class Voice III. (1:1-1)

Applied Music-Private Lessons

Private instruction on instruments and in voice is available to students majoring or minoring in music and to other students who desire to gain or improve proficiency in voice or some instrument. Private lessons are offered for one credit hour at beginning level or two credit hours at secondary-level or concentration-level. Students are assigned private lessons on the basis of audition and/or counseling by the music faculty. One credit hour private lessons meet for one-half hour per week; two credit hour private lessons meet for one hour per week. A maximum of 20 credit hours in applied music (all private lessons) may be applied toward a degree. Music majors who are not concentrating (or majoring) in piano should enroll in class piano or in a secondary-level piano course, unless the student passes a keyboard barrier exam. Private instruction is available in voice, piano, organ, flute, oboe, clarinet, bassoon, saxophone, French horn, trumpet, baritone, trombone, tuba, and percussion instruments. Private instruction in guitar, violin, viola, and string bass is also available. Courses involving private instruction in applied music have certain minimum weekly practice time requirements. For information concerning these requirements, contact the appropriate department chair.

Non-Destructive Testing Technology

(Formerly Welding Inspection Option)

METL 1313 Introduction to Corrosion (150611)

An introduction to internal, external, and atmospheric corrosion including terminology, causes of common corrosion problems in industry, and general remedies such as cathodic protection, protective coatings, material selection and chemical treatments (3:2-2).

METL 1405 Welding Metallurgy I (150611)

(Formerly INSP 1521)

An introduction to physical metallurgy and its applications related to welding, including studies of metal characteristics, testing, effects of alloying and heat treating, and basic properties. Emphasis on conducting tests and metallographic techniques. (4:3-3)

METL 2435 Welding Metallurgy II (150611)
(Formerly INSP 2521)

An advanced course in the application of metallurgy principles to processes and procedures pertaining to various metal compositions and fusions. Studies include the metallurgy and selection of filler metal groups, the nature of defects, metal fusion problems, thermal effects in metal fusion, and the welding of various kinds of steel and nonferrous metals. Prerequisite: METL 1405 or approval of department chair. (4:3-3)

NDTE 1301 Film Interpretation of Weldments (480508)

(Formerly NDTE 1401)
A study of radiographic film interpretation, including exploration of radiographic basics, interpretation of indications, and causes of indications. Film indications will be evaluated to the structural, piping, and pressure vessel codes. (3:2-2)

NDTE 1410 Liquid Penetrant and Magnetic Particle (480508)

(Formerly INSP 1518)
An introduction to the study of non-destructive testing in accordance with SNT-TC-1A of materials before and after they are welded. An integral part of the course is the interpretation of non-destructive testing in accordance with building codes in liquid penetrant and magnetic particle. The theory and operation of magnetic and penetrant testing methods are stressed. (4:3-3)

NDTE 1440 Eddy Current Testing (480508)

General principles of eddy current testing including theory, knowledge, and skills for basic examination; effects of material properties, probe types, calibration standards and equipment selection. (4:3-3)

NDTE 1454 Intermediate Ultrasonic Testing (480508)

(Formerly INSP 1528 or METL 1572)
Basic theory and applications of ultrasonic techniques of materials testing covering the theoretical material from the certification test for Ultrasonic Level I American Society of Non-Destructive Testing. The testing portion of the course is concerned with a study of fundamental properties of sound theory, principles of wave propagation, operation of ultrasonic waves, ultrasonic test equipment, process and techniques. Safety practices, procedures and current development in ultrasonic testing in industrial area are stressed in relation and application to the metal working industry. (4:3-3)

NDTE 2339 Pressure Piping (480508)

General principles of pressure vessel inspection; covers American Society of Mechanical Engineers (ASME) and American Petroleum Institute (API) documents that pertain to pressure piping inspection; emphasis will be on preparing students to take the API 570 certification examination. (3:2-2)

NDTE 2401 Advanced Ultrasonic Testing (480508)

Designed to strengthen the student's knowledge and skills in ultrasonic testing. Emphasis is on welded plate, pipe, and TKY connectors, immersion testing, written practices, and procedures. A study of modern shear wave testing techniques involving the ultrasonic test method. The testing portion of the course is concerned with a study of fundamental properties of sound theory, principles of wave propagation, operation of ultrasonic waves, ultrasonic test equipment, process and techniques as they apply to flaw characterization and sizing. Safety practices, procedures and current development in ultrasonic testing in the industrial area are stressed in relation and application to the metal working industry. (4:3-3)

NDTE 2411 Preparation for Welding Inspection (480508)

General principles of welding inspection including welding processes, terms and definitions, welding discontinuities, duties and responsibilities of inspectors, destructive and nondestructive testing, quality assurance/quality control, welding codes and blueprints, procedures, and case studies. An overview of welding tools and equipment, metallurgy, chemistry, and joint design. (4:3-3)

NDTE 2440 Pressure Vessel Inspection (480508)

General principles of pressure vessel inspection; covers American Society of Mechanical Engineers (ASME) and American Petroleum Institute (API) documents that pertain to pressure vessel inspection; emphasis will be on preparing students to take the API 510 certification examination (4:3-3).

QCTC 1341 Statistical Quality Control (150702)

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, reliability, mathematical models, and programming. Prerequisites: MATH 1333 or MATH 1314 (3:2-2).

QCTC 1343 Quality Assurance (150702)

Information on quality assurance principles and applications; designed to introduce the student to the quality assurance profession. (3:2-2).

QCTC 1446 Introduction to Testing and Inspection Systems (150702)

A study of testing and inspection systems including pertinent specifications, inspection tools, gauges, instruments and mechanisms in illustrating the need for maintaining quality to establish standards. Emphasis placed on the applications and methods of solving quality control and inspection problems using the appropriate testing and inspection methods such as AET, ET, LT, MT, PT, RT, UT and VT. (4:3-3)

QCTC 2331 Standards and Codes (150702)
(Formerly QCTC 2431)

A study of philosophy and theory of standards, appropriate standard organizations, and systems integration to the application of standards criteria in society. Emphasis placed on the study of structural, mechanical and application of the ASME, AWS and API codes along with ASTM and MIL-STD. (3:3-0)

WLDG 2380 Cooperative Education—Welding Technology (480508)

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. (3:1-20).

Nursing

Nursing (Associate Degree)

RNSG 1108 Dosage Calculations for Nursing (511601)

Dosage calculations include reading, interpreting and solving calculation problems encountered in the preparation of medications; and conversion of measurements within the apothecary, avoirdupois, and metric systems. Prerequisite for program admission. This is an 8-week course for two hours per week) (1:1-0)

RNSG 1140 Nursing Skills for Articulating Students (511601)

Validation of current skills and procedures in a variety of settings; application of a systematic problem solving process and critical thinking skills; focus on the expansion of the scientific knowledge and principles underlying nursing skills and procedures; and competency in knowledge, judgment, skills, and professional values within a legal/ethical framework. Prerequisite for program admission. (1:0-3)

RNSG 1144 Intermediate Nursing Skills (511601)

(Formerly RNSG 1244)

Study of the 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. Prerequisite: RNSG 1413. Co-Requisites: RNSG 1215, and RNSG 1160. (1:0-4)

RNSG 1160 Clinical Nursing Intro (511601)

A basic type of 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. Close and/or direct supervision is provided by the clinical professional, generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisites: RNSG 1413. Co-Requisite: RNSG 1215, RNSG 1144. (1:0-6)

RNSG 1162 Clinical: Concepts of Nursing Practice IIa for the Articulating Student (LVN) (511601)

An intermediate type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing workflow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: RNSG 1209, RNSG 1417, and RNSG 1260. Co-Requisite: RNSG 1241. This is an 8-week course for eight hours per week. (1:0-4)

RNSG 1163 Clinical: Concepts of Nursing Practice IIa for the Articulating Student (Paramedic) (511601)

An intermediate type of health professions work-based instruction that helps students

synthesize new knowledge, or gain experience managing workflow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisites: RNSG 1209, RNSG 1417, and RNSG 1360. Co-Requisite: RNSG 1241. This is an 8-week course for twelve hours per week. (1:0-6)

RNSG 1166 Practicum, Nursing Transition (511601)

An intermediate or advanced type of health professions work-based instruction that helps students gain practical experience in the discipline, enhance skills, and integrate knowledge. The emphasis is on practical work experience for which the student has already acquired the necessary theoretical knowledge and basic skills. Direct supervision is provided by the clinical professional, generally a clinical preceptor. A health practicum may be a paid or unpaid learning experience. Prerequisite: BIOL 2401, BIOL 2402, BIOL 2420 or BIOL 2421, ENGL 1301, MATH 1333 or MATH 1314, , PSYC 2314, and PHED, (Prerequisite for Paramedic to RN includes RNSG 1413). Co-Requisite: RNSG 2207. (1:0-7)

RNSG 1191/1291 Special Topics in Nursing (511601)

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. Prerequisite: Admission to the ADN program and approval of the department chair or associate dean. Note: 1-2 credit hours available on individual basis. (1 or 2: 0-1 or 2)

RNSG 1209 Introduction to Nursing (511601) (Formerly RNSG 2207)

Overview of nursing and the role of the associate degree nurse as a provider of care, coordinator of care, and member of the profession. Topics include knowledge, judgment, skills and professional values within a legal/ethical framework. Prerequisite: Admission to the ADN Mobility Program. (2:2-0)

RNSG 1215 Health Assessment (511601) (Formerly RNSG 1115)

Development of skills and techniques required for a comprehensive health assessment within a legal/ethical framework. Prerequisite: BIOL 2401, BIOL 2402, BIOL 2420 or BIOL 2421, ENGL 1301 (Central), MATH 1333, or MATH 1314 (Central). Requires department chair approval. (2:1-2)

RNSG 1241 Concepts of Nursing Practice IIa for Articulating Students

(Formerly RNSG 1442)

Provides the articulating student the opportunity to examine the roles of the professional nurse and apply systematic problem solving processes and critical thinking skills; focuses on the utilization of leadership and management skills in the provision of care to small groups of adult clients and their families in selected settings and competency in knowledge, judgment, skills and professional values within a legal/ethical framework. Expanded course description: The focus of this course will be the care of children. Prerequisite: RNSG 1209, RNSG 1417, RNSG 1260/1360, and RNSG 1360. Co-requisite: RNSG 1162. This is an 8-week course for four hours per week. (2:2-0)

RNSG 1242 Concepts of Nursing Practice IIb for Articulating Students

(Formerly RNSG 1442)

Provides the articulating student the opportunity to examine the roles of the professional nurse and apply systematic problem solving processes and critical thinking skills; focuses on the utilization of leadership and management skills in the provision of care to small groups of adult clients and their families in selected settings and competency in knowledge, judgment, skills and professional values within a legal/ethical framework. Expanded course description: The focus of this course will be maternal newborn care and women's health. Prerequisite: RNSG 1417, RNSG 1209, RNSG 1260 and RNSG 1360. Co-requisite: RNSG 2160 or RNSG 2161. This is an 8-week course for four hours per week. (2:2-0)

RNSG 1251 Care of the Childbearing Families (511601)

Study of concepts related to the provision of nursing care of childbearing families. Topics may include selected complications. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework. Prerequisite: RNSG 1343, RNSG 1262 and RNSG 1301 and PSYC 2314. Co-Requisite: RNSG 1263. (2:2-0)

RNSG 1260 Clinical: Concepts of Nursing Practice I for the Articulating Student (LVN) (511601)

A health related 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. Close and/or direct supervision is provided by the clinical professional (faculty or

preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: LVN, admission to ADN Mobility program. Co-Requisite: RNSG 1209, RNSG 1417. (2:0-8)

RNSG 1261 Clinical Nursing Common Concepts of Adult Health (511601)

An introductory type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow in care of adult clients/families with common medical-surgical health care needs related to each body system. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional, generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: RNSG 1413, RNSG 1215, RNSG 1160, and RNSG 1215. Co-Requisite: RNSG 1301, RNSG 1341, and PSYC 2314. (2:0-7)

RNSG 1262 Clinical Nursing Complex Concepts of Adult Health (511601)

An intermediate type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow in care of adult clients/families with complex medical-surgical health care needs associated with each body system. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional, generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: RNSG 1261 and RNSG 1341. Co-Requisite: RNSG 1301, RNSG 1343, and PSYC 2314. Prerequisite for Transition: RNSG 2207 and RNSG 1166. Co-Requisite for Transition: RNSG 1343. Prerequisite or Co-Requisite: RNSG 1301. (2:0-7)

RNSG 1263 Clinical Nursing Care of Childbearing Families (511601)

An intermediate type of health professions work-based instruction helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow in the provision of nursing care for childbearing families. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional, generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: RNSG 1343, RNSG 1262, RNSG 1301 and PSYC 2314. Co-Requisite: RNSG 1251. (2:0-7)

RNSG 1301 Pharmacology (511601)

(Formerly NURS 1315)
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 medication within a legal/ethical framework. Prerequisite: BIOL 2401, BIOL 2402, BIOL 2420 or BIOL 2421 (Central), and must have Department Chair approval. (3:3-0)

RNSG 1341 Common Concepts of Adult Health (511601)

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. Prerequisite: RNSG 1413, RNSG 1160, RNSG 1215, and RNSG 1144. Co-Requisite: RNSG 1301, RNSG 1261 and PSYC 2314. (3:3-0)

RNSG 1343 Complex Concepts of Adult Health (511601)

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 judgment, skills, and professional values within a legal/ethical framework. Prerequisite: RNSG 1341, and RNSG 1261. Co-Requisite: RNSG 1301, RNSG 1262 and PSYC 2314. (3:3-0)

RNSG 1360 Clinical: Concepts of Nursing Practice I for the Articulating Student (Paramedic) (511601)

A health related work based on learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Clinical education is an unpaid learning experience. Prerequisite: Certified licensed paramedic, admission to ADN Mobility Program. Co-Requisite: RNSG 1209, RNSG 1417. (3:0-12)

RNSG 1413 Foundations for Nursing Practice (511601)

Introduction to the role of the professional nurse as a 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 frame-

work 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. Prerequisite: BIOL 2401, BIOL 2402, BIOL 2420 or BIOL 2421, MATH 1333 OR MATH 1314, and ENGL 1301. Co-Requisite: RNSG 1215, and PSYC 2301. Prerequisite for Paramedic to RN: BIOL 2401, BIOL 2402, BIOL 2420, MATH 1333 OR MATH 1314, ENGL 130, PSYC 2301, PSYC 2314, and PHED. (4:3-3)

RNSG 1417 Concepts of Nursing Practice I for Articulating Students (511601)

Provides the articulating student the opportunity to examine the role of the professional nurse; application of a systematic problem solving process and critical thinking skills, which includes a focus on the adult population in selected settings; and competency in knowledge, judgment, skill, and professional values within a legal/ethical framework. Prerequisite: Admission to ADN Mobility Program. Co-Requisite: RNSG 1260 or RNSG 1360. (4:4-0)

RNSG 2121 Management of Client Care (511601)

Exploration of leadership and management principles applicable to the role of the nurse as provider of care, coordinator of care, and member of the profession. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework. Prerequisite or Co-Requisite: RNSG 2213, RNSG 2261, RNSG 2231, RNSG 2260, RNSG 2201, RNSG 2262, RNSG 1251 and RNSG 1263. Co-Requisite: RNSG 2263. (1:1-0)

RNSG 2160 Clinical: Concepts of Nursing Practice IIb for the Articulating Student (LVN) (511601)

An intermediate type of health professions work-based instruction that helps students synthesize new knowledge or gain experience managing workflow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: RNSG 1209, RNSG 1417 and RNSG 1260. Co-Requisite: RNSG 1242. This is an 8-week course for eight hours per week. (1:0-4)

RNSG 2161 Clinical: Concepts of Nursing Practice IIb for the Articulating Student (Paramedic) (511601)

An intermediate type of health professions work-based instruction that helps students synthesize new knowledge or gain experience managing workflow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: 1209, RNSG 1417 and RNSG 1360. Co-Requisite: RNSG 1242. This is an 8-week course for twelve hours per week (1:0-6)

RNSG 2162 Clinical: Concepts of Nursing Practice IIIa for the Articulating Student (511601)

An advanced type of health professions work-based instruction that helps students synthesize new knowledge or gain experience managing workflow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: RNSG 1241, RNSG 1242, RNSG 1162 or RNSG 1163, RNSG 2160 or RNSG 1261. Co-Requisite: RNSG 2270. This is an 8-week course for twelve hours per week. (1:0-6)

RNSG 2163 Clinical: Concepts of Nursing Practice IIIb for the Articulating Student (511601)

An advanced type of health professions work-based instruction that helps students synthesize new knowledge, or gain experience managing workflow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: RNSG 1241, RNSG 1242, RNSG 1162 or RNSG 1163, RNSG 2160 or RNSG 1261. Co-Requisite: RNSG 2271. This is an 8-week course for twelve hours per week. (1:0-6)

RNSG 2201 Care of Children and Families (511601)

Identify changes which may be experienced by the child/family; utilize critical thinking skills and a systematic problem-solving process as a framework for providing care for the child and the family; and explain the roles of the professional nurse in caring for children and families. Co-requisite: RNSG 2262. Prerequisite: RNSG 1343, RNSG 1262, RNSG 1301, PSYC 2314. (2:2-0).

RNSG 2207 Transition to Nursing Practice (511601)

Introduction to selected concepts related to the role of the associate degree nurse as a provider of care, coordinator of care, and member of the profession. Review of trends and issues impacting nursing and health care today and in the future. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework. Prerequisite: BIOL 2401, BIOL 2402, BIOL 2420 or BIOL 2421, ENGL 1301, MATH 1314 or MATH 1333, PSYC 230, PSYC 2314, and PHED (Prerequisite for Paramedic to RN includes RNSG 1413). Co-Requisite: RNSG 1166. (2:2-1)

RNSG 2213 Mental Health Nursing (511601)

Principles and concepts of mental health, psychopathology, and treatment modalities relating to the nursing care of clients and their families. Prerequisite: RNSG 1262, RNSG 1301, RNSG 1343, and PSYC 2314. Co-Requisite: RNSG 2261. (2:2-0)

RNSG 2231 Advanced Concepts of Adult Health (511601)

Application of advanced concepts and skills for the development of professional nurse's roles in complex nursing situations with adult clients/families with complex health needs involving multiple body systems in intermediate and critical care settings. Emphasis on knowledge, judgment, skills, and professional values within a legal/ethical framework. Prerequisite: RNSG 1343, RNSG 1262, RNSG 1301 and PSYC 2314. Co-Requisite: RNSG 2260. (2:2-1)

RNSG 2260 Clinical Nursing Advanced Concepts of Adult Health (511601)

An advanced type of health professions work-based instruction helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow in care of adult clients/families with complex health needs involving multiple body systems in intermediate and critical care settings. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional, generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: RNSG 1343, RNSG 1262, RNSG 1301 and PSYC 2314. Co-Requisite: RNSG 2231. (2:0-7)

RNSG 2261 Clinical Mental Health Nursing (511601)

An intermediate type of health professions work-based instruction helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow in the provision of principles

and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of clients and their families. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional, generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: RNSG 1343, RNSG 1262, RNSG 1301 and PSYC 2314. Co-Requisite: RNSG 2213. (2:0-7)

RNSG 2262 Clinical Nursing Care of Children and Families (511601)

An intermediate type of health professions work-based instruction helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow in the provision of nursing care for the child and family. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional, generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite: RNSG 1343, RNSG 1262, RNSG 1301 and PSYC 2314. Co-Requisite: RNSG 2201. (2:0-7)

RNSG 2263 Clinical Nursing Management of Client Care (511601)

An intermediate type of health professions work-based instruction helps students explore leadership and management principles applicable to the role of the nurse as a provider of care, coordinator of care, and member of a profession. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional, generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisite or Co-Requisite: RNSG 2213, RNSG 2261, RNSG 2231, RNSG 2260, RNSG 2201, RNSG 2262, RNSG 1251, and RNSG 1263. Co-Requisite RNSG 2201. (2:0-8)

RNSG 2270 Concepts of Nursing Practice IIIa for Articulating Students

(Formerly RNSG 2402)

Provides the articulating student the opportunity to examine the roles of the professional nurse and apply systematic problem solving processes and critical thinking skills; focuses on the utilization of leadership and management skills in the provision of care to small groups of adult clients and their families in selected settings and competency in knowledge, judgment, skills and professional values within a legal/ethical framework. Expanded course description: The focus of this course is the care of the patient with psychosocial disorders. Prereq-

quisite: RNSG 1242 Concepts of Nursing Practice IIb for Articulating Students; Co-requisite: 2162 (2:2-0)

RNSG 2271 Concepts of Nursing Practice IIIb for Articulating Students

(Formerly RNSG 2402)

Provides the articulating student the opportunity to examine the roles of the professional nurse and apply systematic problem solving processes and critical thinking skills; focuses on the utilization of leadership and management skills in the provision of care to small groups of adult clients and their families in selected settings and competency in knowledge, judgment, skills and professional values within a legal/ethical framework. Expanded course description: The focus of this course will be nursing management and critical care. Prerequisite: RNSG 1242 Concepts of Nursing Practice IIb for Articulating Students; Co-requisite: 2163 (2:2-0)

Nursing

Vocational Nursing

VNSG 1116 Nutrition (511613)

Introduction to nutrients and their role in proper growth and development and the maintenance of health. Prerequisite: Department chair/program director approval, Reading level 7, Math level 7, and Writing level 7. Hours: Thirty-two lab hours. (1:0-2)

VNSG 1119 Professional Development (511613)

Study of the importance of professional growth. Topics include the role of the vocational nurse in the multidisciplinary health care team, professional organizations, and continuing education. Prerequisite: Completion of second semester of VNSG, Reading level 7, Math level 7, and Writing level 7. Course must be taken in third semester. Hours: Sixteen lecture hours. (1:1-0)

VNSG 1136 Mental Health (511613)

Introduction to the principles and theories of positive mental health and human behaviors. Topics include emotional responses, coping mechanisms, and therapeutic communication skills. Prerequisite: Reading level 7, Math level 7, Writing level 7, and completion of first semester of VNSG courses. Hours: Sixteen lecture hours. (1:1-0)

VNSG 1160 Clinical Prep-Practical Nursing (511613)

A method of instruction providing detailed education, training, and work-based experience, and simulated direct patient/client

care in a laboratory setting. This supervised practice provides beginning experience in nursing care of adult medical-surgical clients. This course is six weeks in length. Prerequisites: Reading Level 6, Math Level 6, Writing Level 6 or director/department chair approval, and Admission into either the Vocational Nursing Program or the Mental Health Clinical and Counseling Psychology program. Co-requisite: Concurrent enrollment in VNSG 1323 is required. Successful completion of VNSG 1160 and 1323 is required prior to taking VNSG 2331 and 1260. If unsuccessful in VNSG 1160 and/or 1323, student is not eligible to continue in VNSG 1227 and the VNSG program. Hours: Ninety-six lab hours (1:0-6)

VNSG 1226 Gerontology (511613)

(Formerly VOCN 2202)

Overview of the normal physical, psychosocial, and cultural aspects of the aging process. Addresses common disease processes of the aging and exploration of attitude toward care of the elderly. Prerequisite: Reading level 7, Math level 7, writing level 7 and completion of first semester of VNSG program. Co-requisite: Concurrent enrollment in VNSG 1262. Hours: Thirty-two lecture hours. (2:2-0)

VNSG 1227 Essentials of Medication Administration (511613)

(Formerly VOCN 1302)

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. Prerequisite: Admission into VNSG program. Reading level 7, Math level 7, Writing level 7. Co-Requisite: Concurrent enrollment with VNSG 2331 and VNSG 1260 is required. Hours: Thirty-two lecture and sixteen lab hours (2:2-1)

VNSG 1230 Maternal-Neonatal Nursing (511613)

(Formerly VOCN 2331)

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. Prerequisite: Reading level 7, Math level 7, Writing level 7, and completion of second semester of VNSG courses. Co-Requisite: Concurrent enrollment in VNSG 1234 and VNSG 2261 required. Hours: Thirty-two lecture hours and sixteen lab hours. (2:2-1)

VNSG 1231 Pharmacology (511613)

(Formerly VOCN 1322)

Fundamentals of medications and their diagnostic, therapeutic, and curative effects. Includes nursing interventions utilizing the nursing process. Prerequisite: Reading level 7, Math level 7, Writing level 7, and completion of the first semester of VNSG courses. Co-Requisite: Concurrent enrollment in VNSG 1329 and VNSG 1361. Hours: Thirty-two lecture hours and sixteen lab hours. (2:2-1)

VNSG 1234 Pediatrics (511613)

(Formerly VOCN 2331)

Study of childhood diseases and childcare from infancy through adolescence. Focus on the care of the well and ill child utilizing the nursing process. Prerequisite: Reading level 7, Math level 7, Writing level 7, and completion of second semester of VNSG courses. Co-Requisite: Concurrent enrollment in VNSG 1230 and VNSG 2261. Hours: Thirty-two lecture hours and sixteen lab hours. (2:2-1)

VNSG 1238 Mental Illness (511613)

Study of human behavior with emphasis on emotional and mental abnormalities and modes of treatment incorporating the nursing process. Prerequisite: Reading level 7, Math level 7, Writing level 7, and completion of first semester of VNSG courses. Thirty-two lecture hours. (2:2-0)

VNSG 1260 Clinical I-Practical Nurse (511613)

A method of instruction providing detailed education, training, and work-based experience and direct patient/client care, generally at a clinical site. This supervised practice provides beginning experience in nursing care of adult medical-surgical clients. This course is ten weeks in length. Prerequisites: Reading level 7, Math level 7, Writing level 7 and admission into the VNSG program and successful completion of VNSG 1323 and VNSG 1160. Co-Requisites: Concurrent enrollment in VNSG 2331 and VNSG 1227 is required. Hours: One hundred twenty-eight clinical hours. (2:0-8)

VNSG 1262 Clinical III-Practical Nurse (511613)

(Formerly VOCN 2203)

A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. This clinical practice offers the student continued experience in the nursing care of adult medical-surgical clients in varied clinical settings. Prerequisites: Reading level 7, Math level 7, Writing

level 7, and completion of first semester of VNSG courses. Co-Requisite: Concurrent enrollment in VNSG 1226. Hours: One hundred twelve clinical hours. (2:0-7)

VNSG 1320 Anatomy and Physiology for Allied Health (511613)

(Formerly VOCN 1301)

Introduction to the normal structure and function of the body including an understanding of the relationship of body systems in maintaining homeostasis. Prerequisites: Department chair/program director approval, Reading level 7, Math level 7, and Writing level 7. Forty-eight lecture hours and sixteen lab hours. (3:3-1)

VNSG 1323 Basic Nursing Skills (511613)

(Formerly VOCN 1602)

Mastery of entry-level nursing skills and competencies for a variety of health care settings. Utilization of the nursing process as a foundation for nursing intervention. Prerequisites: Reading level 6, Math level 6, Writing level 6 or director/department chair approval, and admission into either the Vocational Nursing program or the Mental Health Clinical and Counseling Psychology program. Co-requisite: Concurrent enrollment in VNSG 1160 is required. Successful completion of VNSG 1323 and VNSG 1160 is required prior to taking VNSG 2331 and 1260 and continuing in VNSG 1227 and the VNSG program. Hours: Thirty-two lecture hours and thirty-two lab hours. (3:2-2)

VNSG 1329 Medical-Surgical Nursing I (511613)

(Formerly VOCN 1320)

Application of nursing process to the care of adult patients experiencing medical-surgical conditions in the health-illness continuum. A variety of health care settings are utilized. Prerequisite: Reading level 7, Math level 7, Writing level 7, and completion of first semester VNSG courses. Co-Requisite: Concurrent enrollment in VNSG 1231 and VNSG 1361 required. Hours: Forty-eight lecture hours and sixteen lab hours. (3:3-1)

VNSG 1332 Medical-Surgical Nursing II (511613)

(Formerly VOCN 2330)

Continuation of Medical Surgical I with application of the nursing process to the care of adult patients experiencing medical-surgical conditions in the health-illness continuum. Prerequisite: Reading level 7, Math level 7, Writing level 7, and completion of second semester VNSG courses. Co-Requisite: Concurrent enrollment in VNSG 2260 course required. Hours: Forty-eight lecture hours and sixteen lab hours. (3:3-1)

VNSG 1361 Clinical II-Practical Nurse (511613)

(Formerly VOCN 1421)

A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. This clinical practice offers the student continued experience in the nursing care of adult medical-surgical clients. Prerequisite: Completion of first semester VNSG courses, Reading level 7, Math level 7, and Writing level 7. Co-Requisite: Concurrent enrollment in VNSG 1231 and VNSG 1329 required. Hours: Two hundred twenty-four clinical hours. (3:0-14)

VNSG 2260 Clinical IV-Practical Nurse (511613)

(Formerly VOCN 2210)

A method of instruction providing detailed education, training, and work-based experience, and direct patient/client care, generally at a clinical site. Supervised clinical practice offering students experience in providing nursing care for more complex medical/surgical clients. Opportunity to identify leadership and management skills will be provided. Prerequisite: Completion of second semester VNSG courses, Reading level 7, Math level 7, and Writing level 7. Co-Requisite: Concurrent enrollment in VNSG 1332. Hours: One hundred twelve clinical hours. (2:0-7)

VNSG 2261 Clinical V-Practical Nurse (511613)

(Formerly VOCN 2231)

A method of instruction providing detailed education, training, and work-based experience, and direct patient/client care, generally at a clinical site. Introduction to clinical practice offering experience in nursing care in the areas of maternity, pediatrics, and the newborn nursery. Prerequisite: Completion of second semester of VNSG, Reading level 7, Math level 7, and Writing level 7. Co-Requisite: Concurrent enrollment in VNSG 1230 and VNSG 1234. Hours: One hundred twelve clinical hours. (2:0-7)

VNSG 2331 Advanced Nursing Skills (511613)

(Formerly VOCN 1602)

Mastery of entry-level nursing skills and competencies for a variety of health care settings. Utilization of the nursing process as a foundation for nursing intervention. Prerequisite: Reading level 7, Math level 7, Writing level 7 and admission into the VNSG program. Co-requisite: Concurrent enrollment in VNSG 1260 is required. Successful completion of VNSG 1323 and VNSG 1160 is required prior to taking

VNSG 2331 and 1260 and continuing in VNSG 1227 and the VNSG program. Hours: Thirty-two lecture hours and sixty four lab hours. (3:2-4)

Nursing Home Administration

LTCA 1312 Resident Care in the Long-Term Care (51072)

(Formerly Nursing Home Administration 231 or NUHA 2311)

A study of the delivery of quality services to residences of long-term care facilities. An overview of the methods for assessing and implementing strategies to promote quality resident care. A presentation of philosophical and ethical considerations. (3:3-0)

LTCA 1313 Organization and Management of Long-Term Care Facilities 510702)

(Formerly Nursing Home Administration 131 or NUHA 1311)

An overview of the functional organizational structures common to long-term health care facilities. An examination of the departments in long-term care facilities, chain of command, personnel, regulatory requirements, quality indicators, and the role of the long-term care administrator. (3:3-0)

LTCA 2314 Long Term Care Law (510702)

(Formerly NUHA 1313)

An examination of the types and sources of law relating to the long-term care industry. A study of federal, state, and local statutes and regulations affecting the long-term care industry. (3:3-0)

LTCA 2315 Financial Management of Long-Term Care Facilities (510702)

(Formerly Nursing Home Administration 235 or NUHA 2315)

A study of techniques and strategies for gathering and using financial information to make decisions in the long-term care facility. An examination of budget processes, accounting principles, financial statements, and inventory controls. Topics include the special accounting requirements of Medicare, Medicaid, and other third-party payment systems. (3:3-0)

For further information write:

Texas Board of Licensure for Nursing Home Administrators
4800 N. Lamar, Suite 355
Austin, TX 78756

LTCA 2668 Internship/Long Term Care (510702)

(Formerly Management Development 130, 133, 230, 239 or 2301, Mid-Management 121, 122, 221 or 222, MGTD 2301, MGMT 2375, or BMGT 2368)

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. This course may be repeated if topics or learning outcomes vary. Prerequisite: Six (6) hours of management courses. (3:1-20)

Occupational Health and Safety Technology**EPCT 1305 Environmental Regulations Overview (150507)**

(Formerly EPCT 1205)

An introduction to the history of the environmental movement, including basic requirements for compliance with environmental regulations. Forty-eight lecture hours. (3:3-0)

EPCT 1307 Introduction to Environmental Safety and Health Technology (150507)

(Formerly OSHT 1401)

A historical overview of environmental safety and health. Emphasis is on the use of occupational safety and health codes. 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 jobs, tasks, and regulatory compliance. (3:3-0)

EPCT 1313 Contingency Planning (150507)

An introduction to the development of an emergency response contingency plan for a facility or community. Emphasis on analyzing the hazards, writing and implementing the contingency plans, and evaluating the effectiveness of the contingency plans. Emphasis is on the emergency response concepts. The student will demonstrate appropriate response to emergency situations; recognize hazardous situations for personnel, environment, and community; and apply team skills in response to emergency situations. Forty-eight lecture hours. (3:3-0)

EPCT 1341 Principles of Industrial Hygiene (150507)

(Formerly OHST 2315)

Basic concepts in threshold limits, dose response, and general recognition of occupational hazards, including sampling statistics, calibration, and equipment use. A study of the control of occupational hazards and sample collection and evaluation methods. Forty-eight lecture hours. (3:3-0)

EPCT 2333 Environmental Toxicology (150507)

(Formerly OHST 2300)

A review of the research determining the systematic health effect of exposures to chemicals. Discussion of risk factors, routes of entry, control measures, and acute and chronic effects. Forty-eight lecture hours. (3:3-0)

OSHT 1307 Construction Site Safety and Health (150701)

(Formerly OSHT 1375, OSHT 1305)

Construction accident prevention; interpretation of OSHA regulations, general safety requirements; occupational health and environmental controls; fire protection and prevention; signs and other barricades, proper hand tool usage; welding and cutting; electrical hazards; ladders; scaffolding; floors and stairways; cranes; derricks; hoists; elevators and conveyors; motor vehicles and mechanized equipment; excavation, trenching and shoring; and demolition, and the use of explosives. (3:3-0)

OSHT 1309 Physical Hazards Control (150701)

(Formerly OHST 1310 and OHST 1315)

A study of the common physical hazards in industry and methods of workplace design and redesign to control hazards. Emphasis on the regulation codes and standards associated with the control of physical hazards. Forty-eight lecture hours. (3:3-0)

OSHT 1313 Accident Prevention, Inspection and Investigation (150507)

(Formerly OHST 2340)

Principles and practices providing a basis for understanding the nature of occupational hazard recognition, accident prevention, loss reduction, inspection techniques, and accident investigation analysis. Forty-eight lecture hours. (3:3-0)

OSHT 1321 Fire Protection Systems (150701)

(Formerly FIPT 2321)

Study of fire protection systems and their applications with emphasis on the National Fire Protection Association codes. Forty-eight lecture hours. (3:3-0)

OSHT 1325 Safety Training Presentation Techniques (150701)

(Formerly FIPT 2325)

General principles of developing and presenting effective industrial/business training. Emphasis on professor qualifications and responsibilities; principles of learning and teaching, methods and techniques of teaching, including use of teaching aids and presentation skills. Forty-eight lecture hours. (3:3-0)

OSHT 2305 Ergonomics and Human Factors in Safety (150701)

A study of the relationship of human behavior and ergonomics as applied to safety. Forty-eight lecture hours. (3:3-0)

OSHT 2309 Safety Program Management (150701)

(Formerly OHST 2330)

A study of the Occupational Safety and Health Act, cost analysis of accidents, records and record keeping, reporting, job safety analysis, and fundamentals of safety training. An introduction to the Occupational Safety and Health Administration's (OSHA) General Industry Standards and an overview of the more frequently cited violations in recent years. Forty-eight lecture hours. (3:3-0)

OSHT 2380 Cooperative Education-Occupational Safety and Health Tech. (150701)

Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between college, employer, and student. Under supervision of the College and employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the work experience. Prerequisite: Department chair approval. (3:1-14)

OSHT 2401 OSHA Regulations-General Industry (150701)

(Formerly OHST 1305)

A study of Occupational Safety and Health Administration (OSHA) regulations pertinent to general industry. Sixty-four lecture hours. (4:4-0)

OSHT 2305 Ergonomics and Human Factors in Safety (150701)

(Formerly OHST 2310, Formerly 2405)

A study of the relationship of human behavior and ergonomics as applied to safety. Forty-eight lecture hours. (3:3-0)

Paralegal

LGLA 1303 Legal Research (220302)

This course provides a working knowledge of the fundamentals of effective legal research. Topics include law library techniques, traditional hardcopy legal research, computer-assisted legal research, briefs, and legal memoranda. The student will locate, read, and understand primary and secondary legal authority; design and implement effective legal research strategies; and be familiar with computer assisted legal research tools and the proper role of these tools. Prerequisite/Co-Requisite: LGLA 1307. (3:3-0)

LGLA 1305 Legal Writing (220302)

This course provides a working knowledge of the fundamentals of effective legal writing. Topics include letters, case briefs, legal memoranda, trial and appellate briefs, case and fact analysis, citation forms, and legal writing styles. The student will write clear concise memoranda and briefs based on legal analysis. Prerequisite: LGLA 1303, ENGL 1301. (3:3-0)

LGLA 1307 Introduction to Law and The Legal Professions (220302)

(Formerly LEGL 1311)

This course provides an overview of the law and the legal professions. Topics include legal concepts, systems, and terminology; ethical obligations and regulations; professional trends and issues with particular emphasis on the paralegal. The student will develop a legal vocabulary, explain fundamental legal concepts and systems, and explain the ethical obligations. Prerequisites: Reading Level 4. (3:3-0)

LGLA 1317 Law Office Technology (220302)

This course introduces computer technology and its applications within the law office. Topics include the use of computer technology in the delivery of legal services with particular emphasis on the paralegal's role. Prerequisites: Reading Level 4. (3:3-1)

LGLA 1346 Civil Litigation I (220302)

(Formerly LEGL 1313)

This course presents fundamental concepts and procedures, and, together with Civil Litigation II, covers litigation from the pretrial stage to the post-trial phase. The student will define and properly use terminology relating to civil litigation; locate, describe, and analyze sources of law relating to the civil litigation process; describe the role and ethical obligations of the paralegal in civil litigation; and draft documents commonly used in civil litigation. Prerequisite or Co-Requisite: LGLA 1307, Reading Level 4. (3:3-0)

LGLA 1347 Civil Litigation II (220302)

This course presents fundamental concepts and procedures of civil litigation, with emphasis on the paralegal's role. Civil Litigation II, together with Civil Litigation I, covers litigation from pretrial stage to post-trial stage. The student will define and properly use terminology relating to civil litigation; locate, describe, and analyze sources of law relating to the civil litigation process; describe the role and ethical obligations of the paralegal in civil litigation; and draft documents commonly used in civil litigation. Prerequisite: LGLA 1346 (3:3-0)

LGLA 1351 Contracts (220302)

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, the Uniform Commercial Code, and the Texas Business and Commerce Code. The student will define and properly use terminology relating to contract law; locate, describe, and analyze sources of law relating to contract law; describe the role and ethical obligations of the paralegal relating to contract law; and draft documents commonly used in contract law. Prerequisite/Co-Requisite: LGLA 1307. (3:3-0)

LGLA 1353 Wills, Trusts, and Probate Administration (220302)

(Formerly LEGL 2310)

This course presents fundamental concepts of the law of wills, trusts, and probate administration with emphasis on the paralegal's role. The student will define and properly use terminology relating to wills, trusts, and probate administration; locate, describe, and analyze sources of law relating to wills, trusts, and probate administration; describe the role and ethical obligations of the paralegal in wills, trusts, and probate administration; and draft documents commonly used in wills, trusts, and probate administration. Prerequisite or Co-Requisites: LGLA 1307, Reading Level 4. (3:3-0)

LGLA 1355 Family Law (220302)

(Formerly LEGL 2313)

This course presents fundamental concepts of family law with emphasis on the paralegal's role. Topics include formal and informal marriages, divorce, annulment, marital property, adoption, and the parent-child relationship. The student will define and properly use terminology relating to family law; locate, describe, and analyze sources of law relating to family law; describe the role and ethical obligations of the paralegal in family law; and draft documents commonly used in family law. Prerequisites or Co-Requisites: LGLA 1307, Reading Level 4. (3:3-0)

LGLA 1391 Special Topics in Legal Assistant (220103)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to legal assistance and relevant to the professional development of the legal assistant student. Prerequisite or Co-Requisite: LGLA 1307. (3:3-0)

LGLA 2303 Torts and Personal Injury Law (220302)

(Formerly LEGL 1315, LGLA 1375)

This course is a study of principles, methods, and investigative techniques utilized to locate, gather, document, and manage information related to tort and personal injury law. Emphasis on developing interviewing and investigative skills to prepare the paralegal to communicate effectively while recognizing ethical problems in this area of the law. Prerequisite or Co-Requisite: Reading Level 4, LGLA 1307. (3:3-0)

LGLA 2309 Real Property (220302)

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 recording of and searching for real estate documents. Prerequisite or Co-Requisite: LGLA 1307, Reading Level 4. (3:3-0)

LGLA 2311 Business Organizations (220302)

This course presents basic concepts of business organizations, with emphasis on the paralegal's role. Topics include law of agency; sole proprietorships; and forms of partnerships, corporations, and other emerging business entities. The student will define and properly use terminology relating to business organizations; locate, describe, and analyze sources of law relating to business organizations; describe the role and ethical obligations of the paralegal relating to formation, operation, and termination of the various business entities; describe the formation, operation, and termination of business entities; and draft documents required for the formation, operation, and termination of business entities. Pre- or Co-Requisites: LGLA 1307. (3:3-0)

LGLA 2313 Criminal Law and Procedure (220302)

(Formerly LEGL 2317)

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. The student will define and properly use terminology relating to crimi-

nal law; describe sources of law relating to criminal law; locate and analyze cases and statutes relating to criminal law; describe the role and ethical obligations of the paralegal relating to criminal law; and draft documents commonly used in criminal law. Prerequisite or Co-Requisite: LGLA 1307, Reading Level 4. (3:3-0)

LGLA 2388 Internship-Paralegal/Legal Assistant (220103)

(Formerly LEGL 2318)

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. 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 occupational and the business/industry; demonstrate ethical behavior, safety practices, interpersonal and teamwork skills, communicating in the applicable language of the occupation and the business or industry. Prerequisites: 18 credit hours of LGLA courses and ENGL 1301. Student must be placed in a position the semester before planning to take this course. This course may be taken a maximum of two times for credit. (3:1-15)

Pharmacy Technician

PHRA 1247 Pharmaceutical Mathematics II (510805)

(Formerly PHRA 1271)

A continuation of Pharmaceutical Mathematics I (PHRA 1309). Topics address ratio and proportion, dilution and concentration, milliequivalent units, and intravenous flow rates. Emphasis is placed on solving parenteral dosage problems. Prerequisites: PHRA 1301, 1305, 1309. (2:2-0)

PHRA 1260 Clinical (Community) (510805)

(Formerly PHRA 2388, PHRA 1360)

A basic type of 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. Close and/or direct supervision is provided by the

clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisites: Reading Level 6, Math Level 6 and Writing Level 6. Co-requisites: PHRA 1313. (2:0-9)

PHRA 1272 Drug Classification II (510805)

An advanced type of study about pharmaceutical drugs, abbreviations, classifications, dosages, actions in the body, and routes of administration. Emphasis is on location of drugs within a pharmacy, inventory control, safety, and quality assurance procedures. Prerequisites: PHRA 1305, Reading Level 6, Math Level 6 and Writing Level 6. (2:2-0)

PHRA 1301 Introduction to Pharmacy (510805)

Examination of the qualifications, operational guidelines, and job duties of a pharmacy technician will be discussed. Topics include definitions of a pharmacy environment, the profile of a pharmacy technician, legal and ethical guidelines, job skills and duties, verbal and written communication skills, professional resources, safety techniques, and supply and inventory techniques. (3:3-0)

PHRA 1305 Drug Classification (510805)

(Formerly PHRA 1205)

A study of pharmaceutical drugs, abbreviations, classifications, dosages, actions in the body, and routes of administration. Emphasis is on location of drugs within a pharmacy, inventory control, safety, and quality assurance procedures. Prerequisites or Co-Requisites: PHRA 1301. (3:3-0)

PHRA 1309 Pharmaceutical Mathematics I (510805)

(Formerly PHRA 1209)

Pharmaceutical mathematics includes 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, will be a focus. Topics include ratio and proportion, percentage, dilution and concentration, milliequivalent units, intravenous flow rates, and solving dosage problems. Prerequisite or Co-Requisites: PHRA 1301. (3:3-0)

PHRA 1313 Community Pharmacy Practice I (510805)

Mastery of skills necessary to interpret, prepare, label, and maintain records of physicians' medication orders and prescriptions in a community pharmacy is a primary focus. This course is designed to train individuals in the administration of supply, inventory, and data entry. Topics include customer service and advisement, count and pour techniques, prescription calculations, drug selection and preparation, over-the-counter drugs, price labeling, record keeping, stock level adjustment, maintain of new drug requests, data input and editing, and legal parameters. Prerequisites or Co-Requisites: PHRA 1301, 1305, 1309. (3:2-3)

PHRA 1345 IV Admixture and Sterile Compounding (510805)

Mastery of skills in compounding sterile products is emphasized. Introduction to sterile products, hand washing techniques, pharmaceutical calculations, references, safety techniques, aseptic techniques in parenteral compounding, proper use of equipment (auto-injectors, pumps), preparation of sterile products (intravenous, irrigating ophthalmic, total parenteral nutrition, and chemotherapy drugs), and safe handling of anti-neoplastic drugs. Prerequisite: PHRA 1313. (3:2-3)

PHRA 1449 Institutional Pharmacy Practice II (510805)

The student will explore the unique role and practice of the pharmacy technician in an institutional pharmacy, with emphasis on daily pharmacy operations. Topics include hospital pharmacy organization, work flow and personnel, medical and pharmaceutical terminology, safety techniques, data entry, packaging and labeling operations, extemporaneous compounding, in-patient drug distribution systems, unit dose cart fill, quality assurance, drug storage, and inventory control. Prerequisites: PHRA 1301, 1305, 1309, 1313. (4:3-2)

PHRA 2260 Clinical (Institutional) (510805)

(Formerly PHRA 2389, PHRA 2360)

An advanced type of 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. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisites: Reading Level 6, Math Level 6 and Writing Level 6. Co-requisites: PHRA 1247, PHRA 1345, PHRA 1449, PHRA 1260 and PHRA 1271. (2:0-10)

Philosophy

PHIL 1301 Introduction to Philosophy (3801015112)

(Formerly PHIL 2311)

A general overview of the historical development and the major systems of philosophical thought, the nature of man, knowledge, morality, social and political theory, and the existence of God. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

PHIL 1304 Introduction to World Religions (3802015212)

Introduction to World Religions is a survey course in philosophy designed to familiarize student with the major theories of world religions. Students will establish broad and multiple perspectives of religious theory and evaluate theories of religion. This course is a survey and critical examination of major theories concerning world religions. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

PHIL 2303 Logic I (3801015212)

(Formerly Philosophy 1311)

A study of nature and methods of correct reasoning, deductive proof, fallacies, and arguments. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

PHIL 2306 Introduction to Ethics (3801015312)

This course offers a general overview of classical and contemporary theories concerning the good life, human conduct in society, moral and ethical standards; and the nature, criteria, sources, logic, and validity of moral value judgments. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

PHIL 2307 Introduction to Social and Political Philosophy (3801015412)

Social and Political Philosophy is a survey course in philosophy design to familiarize students with the major theories concerning the organization of societies and government. Students will establish broad and multiple perspectives of social and political theory and evaluate theories of justice and how to be a responsible member of society. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

Physical Education/ Health Education

Formerly Kinesiology. It is a general requirement for graduation that students complete two semesters of physical education activity. However, there are two exceptions normally made to this rule. The following students are exempt from the physical education requirements: (1) ex-service personnel who have had basic military training in the service of their country; (2) physically handicapped persons who file statements from a family physician stating that the students are physically unable to participate. Only physical education activity courses meet the physical education requirements for graduation, unless otherwise stipulated in the course description. Students may not concurrently enroll in two or more sections of the same physical education activity course. The same activity course may be applied twice toward degree requirements if taken during different semesters.

Physical Education Activity Courses

PHED 1101 Beginning Tennis (3601085123)

(Formerly Physical Education 113, PHED 1103)

This course introduces students to beginning skills and strategies in tennis. Lecture topics include history, rules, strategy (both singles and doubles), etiquette, proper care and selection of equipment, and proper attire. (1:0-3)

PHED 1102 Advanced Tennis (3601085123)

Emphasis will be placed on instruction of advanced techniques, development of a variety of strokes, singles and doubles strategy in game situations, and USTA tournament rules and procedures. Prerequisite: PHED 1101 or departmental approval. (1:0-3)

PHED 1104 Volleyball (3601085123)

(Formerly Physical Education 114)

The student will receive instruction in the skills of passing, setting, spiking, serving, and blocking. Basic offensive and defensive strategies, rules, tournament play, and officiating will be covered. (1:0-3)

PHED 1105 Beginning and Intermediate Swimming (3601085123)

(Formerly Physical Education 115)

Explanation, demonstration, and practice in the five basic strokes, diving, survival skills, and basic elements of water safety. (1:0-3)

PHED 1106 Canoeing (3601085123)

(Formerly Physical Education 116)

Lectures, demonstrations and practice in the basic skills and techniques of canoeing are included. Student fee required. (1:0-3)

PHED 1107 Life Guarding and Life Guard Instruction (3601085123)

(Formerly Advanced Lifesaving, Physical Education 117)

This course provides instruction in life guarding techniques and training for life guard teachers. Successful completion leads to American Red Cross certification. (1:0-3)

PHED 1109 Racquetball (3601085123)

(Formerly Paddleball and Weight Control, Physical Education 119)

This course introduces the student to the rules, terms, safety, basic skills, and strategies necessary to play racquetball. (1:0-3)

PHED 1110 Advanced Racquetball (3601085123)

Emphasis will be placed on instruction in advanced techniques, stroke development, offensive and defensive strategies in game situations, refereeing, serving techniques and strategies, and tournament play. Prerequisite: PHED 1109 or departmental approval. (1:0-3)

PHED 1111 Bowling (3601085123)

(Formerly Physical Education 211)

This course introduces the student to the basic skills and techniques of bowling. Class hours will include instruction in etiquette, selection of equipment, basic techniques, scoring, computing handicaps, league play, and a variety of tournaments. This course is conducted off-campus and requires a student bowling fee. (1:0-3)

PHED 1112 Badminton (3601085123)

(Formerly Physical Education 213, Badminton and Archery)

Lectures, demonstrations and practice in the basic skills and techniques of badminton. (1:0-3)

PHED 1113 Golf (3601085123)

(Formerly Physical Education 214)

Basic skills in playing golf are stressed. Includes rules and etiquette of the game. (1:0-3)

PHED 1114 Jogging (3601085123)

(Formerly Physical Education 311)

A variety of methods and materials are presented in the area of cardiovascular and overall physical fitness. (1:0-3)

PHED 1116 Water Aerobics (36010851238)

(Formerly Physical Education 314)

A total body fitness program including cardiovascular and muscular endurance, strength, and flexibility in the water. Emphasis is placed on improving muscle tone and maintaining a healthy body weight through water fun and fitness activities. (1:0-3)

PHED 1117 Aerobic Activities (3601085123)

(Formerly Physical Education 315)

A cardiovascular conditioning program designed to improve muscle tone and to help maintain a healthy body weight through fun and fitness activities. (1:0-3)

PHED 1118 Advanced Aerobics (3601085123)

This course is an advanced cardiovascular conditioning program. It is designed to increase energy, mental clarity, and health as part of one's lifestyle. The class will incorporate high-energy and low-impact movements. Some classes include bench-step aerobics. Prerequisite: PHED 1117 or department approval. (1:0-3)

PHED 1119 Exercise for Health and Fitness (3601085123)

(Formerly Physical Education 411)

This course is designed to provide students with an essential knowledge of exercise for fitness and health, using lecture, reading, labs on health-related fitness components, and fitness activities. This course will provide an understanding of cardiovascular disease, risk factors, and the role of exercise in prevention. Labs will include fitness testing, self-assessments, maintenance programs, nutritional analysis, and individualized programs. A variety of activities will be used, including low-impact aerobics, power walking, bench stepping, toning and flexibility exercises, and weights. (1:0-3)

PHED 1120 Basketball (3601085123)

(Formerly Physical Education 412)

Basic skills and techniques of basketball. (1:0-3)

PHED 1121 Slow Pitch Softball (3601085123)

(Formerly Physical Education 413)

Development of basic techniques and skills of slow-pitch softball. (1:0-3)

PHED 1122 Soccer (3601085123)

(Formerly Physical Education 414)

Lectures, demonstrations, and practice in basic skills and techniques of soccer. (1:0-3)

PHED 1123 Weight Training (3601085123)

(Formerly Physical Education 415)

Lectures, demonstrations, and practice in the basic skills and techniques of weight training. (1:0-3)

PHED 1126 Team Sports (3601085123)

(Formerly Physical Education 416, Intramural Activities)

This course provides the student with opportunities to participate in a variety of team sports. Volleyball, basketball, flag football, soccer, softball, and floor hockey are included. (1:0-3)

PHED 1130 Modern Dance (3601085123)

(Formerly Physical Education 217)

Emphasis on the fundamental techniques of movement, and practice in beginning composition. (1:0-3)

PHED 1131 Advanced Modern Dance (3601085123)

(Formerly Physical Education 215, Intermediate Modern Dance)

Advanced skills and techniques in movement with emphasis on choreography. (1:0-3)

PHED 1133 Beginning Jazz (3601085123)

(Formerly Physical Education 212, Jazz and Tap)

Basics and background in varied jazz dance forms, from blues to funky, stressing presentation and exploration to reach creative potential. (1:0-3)

PHED 1134 Yoga I (3601085123)

An introduction to basic yoga postures, breathing, and relaxation techniques with emphasis on physical practice. (1:0-3)

PHED 1135 Social Dance (3601085128)

This course is designed to offer students instruction in the fundamentals of social dance patterns and the more basic ballroom dance steps. (1:0-3)

PHED 1136 Beginning Tap Dance (3601085123)

(Formerly Physical Education 312)

Fundamentals of beginning tap movement and basic steps, with emphasis on combination and techniques. (1:0-3)

PHED 1137 Beginning Ballet (3601085123)

(Formerly Physical Education 318)

Introduction to the theory and terminology of classical ballet, with emphasis on techniques including barre and centre work. (1:0-3)

PHED 1138 Intermediate and Advanced Ballet (3601085123)

(Formerly Physical Education 319)

Theory and terminology of pointe and pas de deux, with greater emphasis on centre and allegro work. (1:0-3)

PHED 1139 Yoga II (3601085123)

This course is an extension of Yoga I and is designed to provide students with expanded knowledge in life management skills by placing emphasis on yoga's strength, flexibility and stress reduction techniques. Lectures and practice will also focus on concentration techniques, nutrition and self-assessment. Prerequisite: Yoga I or instructor approval. (1:0-3)

PHED 1140 Martial Arts (3601085123)

Practice and training in the physical and psychological aspects of self-defense and sport are provided through vigorous flexibility, muscular endurance, and technical instruction. Technical instruction will include martial arts skills, combination tactics, and sparring training using partner drills, solo work, and pad drills. (1:0-3)

PHED 1141 Advanced Jazz (3601085123)

This course is designed for the advanced jazz student who wants to develop technical expertise beyond the beginning level of jazz. Prerequisite: PHED 1133. (1:0-3)

PHED 1142 Fitness Swimming (3601085123)

A course designed to promote participation in the lifetime sport of swimming. Lectures and practice in basic skills of swimming for fitness to promote and design a personal training regimen. Prerequisite: PHED 1105 or Professor approval. (1:0-3)

PHED 1143 Fitness Walking (360105123)

This course introduces students to walking as a lifetime fitness activity. Emphasis is placed on correct form and pacing to maintain working heart rate. Other topics covered are proper shoe selection, training principles for improved cardiovascular fitness, safety, and injury prevention. (1:0-3)

PHED 1144 Camping (3601085123)

This course includes lectures, demonstrations, practices, and field trips related to camping. Other topics may be included such as hiking, backpacking, and similar areas. (1:0-3)

PHED 1145 Kickboxing for Fitness (2601085123)

Kickboxing is a fitness program designed to improve muscle tone and cardiovascular endurance through constant motion and repetition using martial arts techniques. A variety of combinations and some martial arts applications are taught. (1:0-3)

PHED 1151 Scuba Diving (3601085123)

(Formerly Physical Education 417, Physical Education 1124)

A beginning course in scuba diving. Students must furnish their own equipment and must be responsible for qualifying dives. (1:0-3)

PHED 1171 Varsity Soccer (3601085128)

Participation in an advanced level of soccer as a member of the National Junior College Athletic Association. The course will include various systems of play, team defense, and offensive strategy. Course may be taken a maximum of four times for credit. Prerequisite: Professor approval. (1:0-3)

PHED 1172 Varsity Cheerleading (3601085128)

Varsity cheerleading is designed to prepare a cheerleading squad for advanced skills development in cheers, chants, stunts, pyramids, and dance routines for the purpose of promoting school spirit at athletic events and for entertainment at basketball half-times. Course may be taken a maximum of four times for credit. Prerequisite: Professor approval. (1:0-3)

PHED 1173 Precision Dance (3601085128)

(Formerly Physical Education 218, 219)
Skills and techniques of precision group performance designed for the experienced performer. Course may be taken a maximum of four times for credit. Prerequisite: Professor approval. (1:0-3)

PHED 1174 Varsity Volleyball Women (Central) (3601085128)

(Formerly Physical Education 615, 616, 617, 618)
A course designed for skilled volleyball players who are competing on a collegiate level. Course may be taken a maximum of four times for credit. Prerequisite: Professor approval. (1:0-3)

PHED 1175 Varsity Basketball Men (Central), Women (North) (3601085128)

(Formerly Physical Education 511, 512, 513, 514)
A course designed for skilled basketball players who are competing on a collegiate level. Course may be taken a maximum of four times for credit. Prerequisite: Professor approval. (1:0-3)

PHED 1176 Varsity Baseball (3601085128)

(Formerly Physical Education 611, 612, 613, 614)
A course designed for skilled baseball players who are competing on a collegiate level. Course may be taken a maximum of four times for credit. Prerequisite: Professor approval. (1:0-3)

PHED 1178 Varsity Golf (3601085128)

(Formerly Physical Education 816, 817, 818, 819)
A course designed for advanced golf players who are competing on a collegiate level. Course may be taken a maximum of four times for credit. Prerequisite: Professor approval. (1:0-3)

PHED 1179 Varsity Tennis (3601085128)

(Formerly Physical Education 911, 912, 913, 914)
A course designed for advanced tennis players who are competing on a collegiate level. Course may be taken a maximum of four times for credit. Prerequisite: Professor approval. (1:0-3)

PHED 1180 Varsity Softball (3601085128)

This course is designed for advanced softball players who are competing on a collegiate level. Players are selected and prepared to represent San Jacinto College in the Texas Junior College Conference with the opportunity to advance to the regional and national tournaments. This program is governed by the rules of the National Junior College Athletic Association. Course may be taken a maximum of four times for credit. Prerequisite: Professor approval. (1:0-3)

PHED 2155 Emergency Water Safety and Emergency Water Safety

Instructor (3601085328)

(Formerly Physical Education 121, PHED 1121, PHED 1125)
Instruction in emergency water safety and teaching techniques for all levels of swimming. This course leads to American Red Cross certification. (1:0-3)

Lecture Courses

PHED 1301 Foundations of Physical Education (3105015223)

(Formerly Physical Education 134, PHED 1314)
A fundamental course in physical education which provides prospective teachers with a general concept of the philosophy and interpretation of physical education and related areas of health education, recreation, and dance. Designed for students majoring in physical education. Prerequisites: Reading Level 6. (3:3-0)

PHED 1304 Personal/Community Health (5115045316)

(Formerly Health Education 133, Physical Education 133, HEED 1313, HEED 1309)
Investigation of the principles and practices in relation to personal and community health. Designed for students majoring in health education, allied health science, and elementary education. Prerequisite: Reading Level 6. (3:3-0)

PHED 1306 First Aid (5115045316)

(Formerly Health Education 135, Physical Education 135, HEED 1315, HEED 1306)
Instruction in and practice of first aid techniques. Topics covered are: general

procedures at an accident scene, identifying and treating wounds, poisoning, drug abuse, burns, heat related illnesses, frostbite, hypothermia, sudden illness, bone and joint injuries, shock, bandaging techniques, transport techniques, and cardiopulmonary resuscitation. (3:3-0)

PHED 1308 Officiating Major Sports (1202045109)

(Formerly Physical Education 235, PHED 2315)
Instruction in and application of the fundamentals of sports officiating as they apply to football, volleyball, basketball, softball, and track and field. Students will be required to officiate in the intramural program. (3:3-0)

PHED 1332 Recreational and Elementary Game Skills (101015123)

(Formerly Physical Education 231, PHED 2311)
Participation in basic motor skills, fitness and conditioning activities, tumbling, games, and sports. This course will satisfy the requirements for one hour of physical education activity. (3:3-0)

Physical Therapist Assistant

PTHA 1201 The Profession of Physical Therapy (510806)

Introduction to the profession of physical therapy including the historical and current scope of physical therapy. Prerequisite: Admission to the program or departmental approval. (2:2-0)

PTHA 1305 Basic Patient Care Skills (51006)

Introduction to the theory and application of basic patient handling functional skills, assessment techniques, and measurement techniques. Prerequisite: PTHA 1201. Co-Requisite: PTHA 1413. (3:2-3)

PTHA 1321 (Clinical) Pathophysiology (510806)

Study of the pathogenesis, prognosis and therapeutic management of diseases/ conditions commonly encountered in physical therapy. Prerequisite: successful completion of PTHA 1431 and PTHA 2409. (3:3-0)

PTHA 1360 Clinical I-PTA (510806)

A method of instruction providing detailed education, training, work-based experience, and direct patient/client care generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement are the responsibility of the College faculty.

Course may be repeated if topics and learning outcomes vary. Prerequisites: successful completion of PTHA 1431 and PTHA 2409. (3:0-13)

PTHA 1413 Functional Anatomy (510806)

Study of human anatomy and its application to the motion of the musculoskeletal system as it relates to normal activities and dysfunctions. Integration of skills related to the kinesiological assessment of the human body. Prerequisite: PTHA 1201. Co-Requisite: PTHA 1305. (4:3-4)

PTHA 1431 Physical Agents (510806)

Study of the biophysical principles, assessment, and application of therapeutic physical agents, with specific emphasis on indications, contraindications, medical efficacy, and physiological effects. Prerequisite: Successful completion of PTHA 1305 and PTHA 1413. Co-Requisite: PTHA 2409. (4:3-4)

PTHA 2239 Professional Issues (510806)

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. Prerequisite: Successful completion of PTHA 1321. Co-Requisites: PTHA 2431 and PTHA 2435. (2:2-0)

PTHA 2409 Therapeutic Exercise (510806)

Critical examination of concepts and application of techniques related to therapeutic exercise and functional training. Prerequisite: Successful completion of PTHA 1305 and PTHA 1413. Co-Requisite: PTHA 1431. (4:3-4)

PTHA 2431 Management of Neurological Disorders (510806)

Advanced course integrating previously learned and new skills/techniques into the comprehensive rehabilitation of selected neurological disorders. Prerequisite: Successful completion of PTHA 1321. Co-Requisites: PTHA 2435 and PTHA 2239. (4:3-4)

PTHA 2435 Rehabilitation Techniques (510806)

Advanced course integrating previously learned and new skills/techniques into the comprehensive rehabilitation of selected long-term pathologies. Prerequisite: Successful completion of PTHA 1321. Co-Requisites: PTHA 2431 and PTHA 2239. (4:3-4)

PTHA 2460 Clinical II-PTA (510806)

A method of instruction providing detailed education, training, work-based experience, and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement are the responsibility of the College faculty. Course may be repeated if topics and learning outcome vary. Prerequisites: Successful completion of PTHA 2431 and PTHA 2435. Co-Requisite: PTHA 2461. (4:0-17)

PTHA 2461 Clinical III-PTA (510806)

A method of instruction providing detailed education, training, work-based experience, and direct patient/client care generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement are the responsibility of the College faculty. Course may be repeated if topics and learning outcomes vary. Prerequisites: Successful completion of PTHA 2431 and PTHA 2435. Co-Requisite: PTHA 2460. (4:0-17)

Physics

PHYS 1401 College Physics I (4008015303)

(Formerly Physics 241, 2411)
This course is designed primarily to meet the needs of the pre-professional and life science major. Problem-solving techniques without the use of calculus are developed in studying the topics of vectors, kinematics, forces, work and energy, momentum, torque, angular momentum, gravity, properties of solids and fluids, heat and thermodynamics. Prerequisites: MATH 1316 or approval by department chair and Reading Level 7. (4:3-3)

PHYS 1402 College Physics II (4008015303)

(Formerly Physics 242, 2412)
A continuation of PHYS 1401. The topics covered are vibration and mechanical waves, sound, electrostatics, electromagnetism, light, optics, lenses and mirrors, relativity, and some quantum physics. Prerequisite: PHYS 1401. (4:3-3)

PHYS 1411 Astronomy I: Planetary (4002015103)

Planetary Astronomy is the first of a two-semester survey course in astronomy, intended for both science and non-science majors. The course examines the history of

astronomy, the physics of planetary motion and astronomical observation, the solar system, stars and stars and planet formation. Lab work will include computer and paper and pencil exercises, laboratory experiments, and assigned nighttime observations. Prerequisites: MATH 1314, Reading Level 7, Writing Level 7, Math Level 9. (4:3-3)

PHYS 1412 Astronomy II: Stellar/Galactic (4002015103)

Stellar/Galactic Astronomy is the second of a two-semester survey course in astronomy, intended for both science and non-science majors. The course examines the history of astronomy, the physics of orbital motion applied to stellar motion, and astronomical observation, the stars, stellar formation, stellar evolution, deaths of stars, galaxies, galaxy cluster, and cosmology. Lab work will include computer and paper and pencil exercises, laboratory experiments, and assigned nighttime observations. Prerequisites: Math 1314, Reading Level 7, Writing Level 7, Math Level 9. (4:3-3)

PHYS 2425 University Physics I (4008015403)

(Formerly Physics 243, 2413)
This course is designed primarily to meet the needs of the pre-engineering student or physics major. Problem solving techniques with the use of calculus are developed in studying the topics of vectors, kinematics, forces, work and energy, momentum, torque, angular momentum, simple harmonic motion, gravity, properties of solids and fluids, heat, and thermodynamics. Prerequisites: MATH 2413 or approval by department chair, and Reading Level 7. (4:3-3)

PHYS 2426 University Physics II (4008015403)

(Formerly Physics 244, 2414)
A continuation of PHYS 2425. The topics covered are vibration and mechanical waves, sound, electrostatics, electricity, dc and ac circuits, magnetism and electromagnetism, light, optics, lenses and mirrors, relativity, and some quantum physics. Prerequisites: MATH 2414 and PHYS 2425. (4:3-3)

Course Descriptions

Pipefitting

Non-Credit Continuing Education Courses

Pipefitting Certificate PFPB 1007 Introduction to Pipefitting: Pipefitting 1B (460502)

(Continuing Education Course)

Instruction in pipefitting hand and power tools, threaded pipe, ladders and scaffolds, motorized equipment, excavation, underground pipe and installation, drawings and detail sheets, piping systems, and trade math. (128 contact hours)

PFPB 1043 Pipefitting Fabrication and Blueprint Reading: Pipefitting II (460502)

(Continuing Education Course)

Instruction in socket and butt weld pipe fabrication, rigging, pipe hangers and supports, advanced blueprint reading, standards and specifications, and advanced trade math. (128 contact hours)

PFPB 2032 Pipefitting Standards, Specifications, Installation: Pipefitting III (460502)

(Continuing Education Course)

Skill development in motorized equipment, above-ground pipe installation valves, field routing and vessel trim, spring can supports, testing piping systems and equipment, basic plumbing, planning work activities, and non-destructive testing (NDT). (72 contact hours)

PFPB 2033 Pipefitting, Advanced Fabrication and Installation: Pipefitting IV (460502)

(Continuing Education Course)

Skill development in advanced pipe fabrication, aligning pipe to rotating equipment, steam traps, in-line specialties, special piping, hot taps, and maintaining valves. (72 contact hours)

Plumbing

Non-Credit Continuing Education Courses

PFPB 1001 Basic Pipefitting: Installation and Rigging (Plumbing IIA) (460502)

(Continuing Education Course)

Instruction in threaded pipe and valve installation, rigging, safety procedures, trade math, and blueprint reading. (72 contact hours)

PFPB 1003 Basic Plumbing Skills (460502)

(Continuing Education Course)

Development of skills and knowledge required to install drains, sanitary sewers, water and natural gas supply lines, and fixtures commonly used in residential and light commercial buildings and facilities. (72 contact hours)

PFPB 1071 Plumbing Standards for Water Supplies (460501)

(Continuing Education Course)

A study in the installation of water service from the installation of valves and faucets to connecting to water mains. Covers both residential and commercial settings. (72 contact hours)

PFPB 2031 Advanced Technologies and Specialized Applications for Piping Trades (Plumbing IVB) (460502)

(Continuing Education Course)

Instruction in new plumbing techniques and materials in the pipe trades. Topics include specialized piping/fitting procedures for specific industrial applications and upgrades to techniques and practices designed to deal with federal, state, and local environmental and safety regulations. (72 contact hours)

PFPB 2032 Pipefitting Standards, Specifications, Installation (460502)

(Continuing Education Course)

Skill development in motorized equipment, above-ground pipe installation valves, field routing and vessel trim, spring can supports, testing piping systems and equipment, basic plumbing, planning work activities, and non-destructive testing (NDT). (72 contact hours)

PFPB 2033 Pipefitting, Advanced Fabrication and Installation (Plumbing IIIA) (460502)

(Continuing Education Course)

Skill development in advanced pipe fabrication, aligning pipe to rotating equipment, steam traps, in-line specialties, special piping, hot taps, and maintaining valves. (72 contact hours)

PFPB 2071 Installation and Repair of Potable Water Systems (460501)

(Continuing Education Course)

Focuses on the plumbing of potable water systems according to local plumbing codes. Methods of filtering and softening water systems will also be discussed. (72 contact hours)

Process Technology

(Formerly Chemical Technology)

CTEC 1401 Applied Petrochemical Technology (410301)

(Formerly PROT 1310)

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. The student will define terms and principles of applied physics; solve problems using basic laws of physics; and apply principles of physics to the operation of plant equipment. Prerequisite: MATH 1333.(4:3-3)

CTEC 2380 Cooperative Education Chemical Technology/Technician 410301)

(Not offered after Summer 2006 [2002630])

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 paid or unpaid experience. This course may be repeated if topics and learning outcomes vary. Prerequisite: sophomore standing or department chair approval. (3:1-20)

CTEC 2386 Internship—Chemical Technology/Technician (150903)

This course is designed to provide advanced students with workplace experience in the processing industry. The student will be assigned an industry mentor who will work with the student's instructor to assure student learning outcomes are achieved. The instructor will visit the work site to evaluate student progress through interviews with both the student and the industry mentor. This may be a paid or unpaid experience. Prerequisites: PTAC 1332, PTAC 1410 or department chair approval. (3:0-18)

PTAC 1302 Introduction to Process Technology (410301)

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. The student will relate an overview of a typical process plant; identify process equipment;

state the purpose of equipment; describe safety, health, and environmental components; and describe the roles, responsibilities, and work environment. (3:3-0)

PTAC 1308 Safety, Health and Environment I (410301)

(Formerly OSH 2401)

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. The student will list components of a typical plant safety and environmental program; describe the role of a process technician in relation to safety, health, and environment; and identify and describe safety, health, and environmental equipment uses. (3:3-0)

PTAC 1332 Process Instrumentation I (410301)

(Formerly PTAC 1352)

Study of the instruments and instrument systems used in the chemical processing industry, including terminology, primary variables, symbology, control loops, and basic troubleshooting. The student will identify and explain the function of instruments used in the chemical process industry, explain the relationship or process control elements in a control loop; and define and apply terms and symbols used in instrumentation. Prerequisite: PTAC 1302. (3:3-1)

PTAC 1350 Industrial Economics (410301)

Examination of the profitability factors of plant operations, including both personal and business strategies and objectives, and operating profitably. Students will summarize plant operations from a business perspective; explain the impact of operation on profitability; and interpret stock market factors and annual reports. Prerequisite: PTAC 2420. (3:3-0)

PTAC 1352 Process Instrumentation I (410301)

(Formerly INTC 1401)

(Not offered after Summer 2006 [200620])

Study of the instruments and instrument systems used in the chemical processing industry, including terminology, primary variables, symbology, control loops, and basic troubleshooting. The student will identify and explain the function of instruments used in the chemical process industry, explain the relationship or process control elements in a control loop; and define and apply terms and symbols used in instrumentation. Prerequisite: PTAC 1302. (3:3-1)

PTAC 1410 Process Technology I - Equipment (410301)

(Formerly PTAC 2410)

Instruction in the use of common process equipment. The student will identify process equipment components; use appropriate terminology to describe components of process equipment; describe basic functions of process equipment, and relate scientific principles associated with process equipment. (4:3-3)

PTAC 2314 Quality (410301)

Study of the background and application of quality concepts. Topics include team skills, quality tools, and economics and continuous improvement. The student will define terms associated with quality systems; demonstrate team skills; and apply principles and tools of quality to process systems. Prerequisite: PTAC 1302. (3:3-0)

PTAC 2336 Process Instrumentation II (410301)

Continued study of the varied instruments and instrument systems used in the chemical processing industry including terminology, primary variables, symbology, control loops, and basic troubleshooting. The student will apply instrumentation principles and theories to process systems. The student will be introduced to the working principles of digital control systems and programmable logic controllers. It is not intended to give the student an equal understanding with an instrumentation student but does offer an overview of how these systems are used to control a process. Prerequisite: PTAC 1352. (3:3-1)

PTAC 2348 Safety, Health, and Environment II (410301)

(Formerly OSH 1309)

Continues instruction in the application of concepts presented in Safety, Health, and Environment I. Emphasis on emergency response concepts. The student will demonstrate appropriate response to emergency situations; recognize hazardous situations for personnel, environment, and community; and apply team skills in response to emergency situations. Prerequisite: PTAC 1308. (3:3-0)

PTAC 2410 Process Technology I-Equipment (410301)

(Formerly PROT 1421)

(Not offered after Summer 2006 [200620])

Instruction in the use of common process equipment. The student will identify process equipment components; use appropriate terminology to describe components of process equipment; describe basic functions of process equipment, and relate scientific principles associated with process equipment. (4:3-3)

PTAC 2420 Process Technology II-Systems (410301)

(Formerly PROT 1422)

Study of the interrelation of process equipment and process systems including related scientific principles. The student will arrange process equipment into basic systems; describe the purpose and function of specific process systems; explain how factors affecting process systems are controlled under normal conditions; and recognize abnormal process conditions. Prerequisite: PTAC 2410. (4:3-3)

PTAC 2438 Process Technology III-Operations (410301)

(Formerly PROT 2410)

This course focuses on combining systems into operational processes with emphasis on operations under various conditions. Topics include typical duties of an operator. The student will combine systems into operating processes; describe a process technician's role during plant operations; write operating procedures, and demonstrate application of operating procedures. Prerequisites: PTAC 2420. (4:3-3)

PTAC 2446 Process Troubleshooting (410301)

(Formerly PROT 2418)

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. The student will explain steps in troubleshooting models; demonstrate use of troubleshooting tools; and apply troubleshooting techniques to process problems. The application of computerized process control is a major part of this course. Prerequisite: PTAC 2420. (4:3-3)

PTRT 1301 Overview of Petroleum Industry (150903)

(Formerly PTRT 1401)

An overview of the entire petroleum industry. It focuses on purposes and proper procedures in a variety of different petroleum technologies: exploration, drilling, production, transportation, marketing, and refining. Students will analyze relationships between finding, producing, and transporting oil and gas; and they will select and use terms and phrases associated with the petroleum industry. Prerequisites: PTAC 2410 (3:3-0).

PTRT 1418 Natural Gas Production (150903)

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. Students

will study topics which will include gas treatment, dehydration, produced water treatment and handling, and pumping and transportation systems. Prerequisites: PTAC 2410 (4:3-3).

SCIT 1414 Applied General Chemistry (40501)

(Formerly PROT 1311)

Study of the general concepts of chemistry with an emphasis on industrial applications. The student will measure physical properties of matter; perform chemical calculations; describe atomic and molecular structure; distinguish periodic relationships of elements; name and write inorganic formulas; write equations for chemical reactions; demonstrate stoichiometric relationships; and demonstrate basic laboratory skills. Prerequisite: Intermediate Algebra. (4:3-3)

Psychology

A student who plans to major in psychology should take the following courses at San Jacinto College for transfer to the university or college of his/her choice: PSYC 2301, 2317, and 2319.

PSYC 2301 General Psychology (4201015125)

(Formerly Psychology 231, PSYC 2311)

A survey of the field of general psychology and a study of the native and acquired controls of human behavior, with emphasis on the mental process and the development of personality. Prerequisite: Reading Level 6. (3:3-0)

PSYC 2306 Human Sexuality (4201015325)

This course covers the physical, psychological, and sociological facets of human sexuality. The course exposes students to the various scholarly research in this interdisciplinary field. Emphasis is placed on self-awareness of one's own sexuality and adjustment, the interpersonal aspects of sexuality, and the social impact that sexual decisions and behavior have on society. This course is also listed as SOCI 2306; however, credit hours are limited to either Psychology or Sociology. Prerequisites: SOCI 1301 or PSYC 2301; Reading Level 7 and Writing Level 7. (3:3-0)

PSYC 2308 Child Growth and Development (4207015125)

(Formerly Psychology 233, PSYC 2313)

A study of child growth and development with specific emphasis on the physiological and psychological changes and problems which the child may experience before reaching adolescence. Prerequisites: PSYC 2301, Reading Level 7 and Writing Level 7. (3:3-0)

PSYC 2314 Lifespan Growth and Development (4207015125)

(Formerly PSYC 2320)

The study of the relationship of the physical, emotional, social, and mental factors of growth and development through the human life span. Prerequisites: PSYC 2301, Reading Level 7 and Writing Level 7. (3:3-0)

PSYC 2315 Psychology of Adjustment (4201015625)

This course is the study of the processes involved in adjustment of individuals to their personal and social environments. This course is designed to study the basic principles and various theories of effective behavior which underlie personal adjustment. This course probes the human dilemma, the personal and social context of behavior, the search for values, and methods for personal growth. Prerequisites: PSYC 2301, Reading Level 7 and Writing Level 7. (3:3-0)

PSYC 2317 Elementary Statistics (4201015225)

(Formerly Psychology 234, PSYC 2314)

This course is a study of the basic statistical concepts and techniques of descriptive and inferential statistics as used in psychological and educational research. Included are frequency distributions and graphs, measures of central tendency and variability, interpretation of individual scores, correlations and prediction, the logic of inferential statistics, t-test, analysis of variance, and some nonparametric statistics including chi square. Prerequisites: PSYC 2301, Reading Level 7 and Writing Level 7. (3:3-0)

PSYC 2319 Introduction to Social Psychology (4216015125)

(Formerly Psychology 232, PSYC 2312)

This course studies behavior of the individual in the group. The course includes group interaction, leadership, motivation, problems in attitudes, prejudice, prosocial behavior, aggression, love, and environmental influences on behavior and gender identity and sexual behavior. Prerequisites: PSYC 2301, Reading Level 7 and Writing Level 7. (3:3-0)

Public Service Administration

PBAD 1321 Public Administration (440401)

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. (3:3-0)

PBAD 1341 Governmental Agencies (440401)

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. (3:3-0)

PBAD 2301 Public Relations in the Public Sector (440401)

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. (3:3-0)

PBAD 2311 Public Sector Supervision (440401)

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. (3:3-0)

PBAD 2331 Budgeting in the Public Sector (440401)

Examination of revenue-producing activities and sources of funds; construction and implementation of budgets; and basic terminology, concepts, and mechanics as they relate to the fiscal factors. Topics include budget cycle, taxation, bonds, indebtedness, and funding accounting. (3:3-0)

PBAD 2335 Ethics in the Public Sector (440401)

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. (3:3-0)

PBAD 2339 Human Resource Management in the Public Sector (440401)

Examination of resource management in the public sector with emphasis on civil service, merit systems, and labor law. Topics include recruiting, selecting, training, compensating, and appraising employees. (3:3-0)

PBAD 2347 Urban Planning (440401)

Examination of urban and regional planning. Topics include environmental analysis, growth, and redevelopment strategies, planning, zoning, and subdividing. (3:3-0)

PBAD 2364 Field Experience-Public Administration (440401)

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. Prerequisite: 18 semester hours credit in Public Service Administration courses. A GPA of 2.0 required in all PBAD courses taken. (3:1-20)

Reading

READ 0308 Basic Reading Skills (3201085212)

(Formerly Special Services 131, DEVS 1301 and 1308)

This course is designed to improve basic reading skills. Following assessment, the student will be taught word recognition, basic vocabulary skills, and literal comprehension, focusing on concepts such as main idea and details. This course is not applicable to any degree. Prerequisite: Reading Level 2. (3:3-2)

READ 0309 Reading Comprehension (3201085212)

(Formerly DEVS 1309)

This intermediate reading course is designed to continue the sequential process of reading with emphasis on reading comprehension and vocabulary development. Selected readings will be used for intensive work in literal and inferential meanings. This course is not applicable to any degree. Prerequisite: A grade of C or above in READ 0308 or Reading Level 4. (3:3-1)

READ 0310 College Reading Techniques (3201085212)

(Formerly Special Services 132, DEVS 1302 and 1310)

This course is designed for the development of reading skills beyond the basic skills on an individual basis. Emphasis is placed on further development of comprehension, vocabulary, and interpretation of nonfiction articles and reading speed. This course is not applicable to any degree. Prerequisite: A grade of C or above in READ 0309 or Reading Level 6. (3:3-0)

READ 0311 Speed Reading (3201085212)

(Formerly DEVS 1303 and READ 1311)

This course is designed primarily for students who read at or above the 12th grade reading level. Emphasis is placed on increased comprehension, reading speed, critical reading, vocabulary expansion, and reading flexibility. This course is for personal enrichment; it is not part of the sequential reading program, nor does it transfer as credit toward any degree. Prerequisite: Reading Level 7. (3:3-0)

Real Estate

RELE 1201 Principles of Real Estate I (521501)

(Formerly RELE 1301)

Overview of licensing as a real estate broker and salesperson. Includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances and liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures, and real estate mathematics. 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. (2:2-0)

RELE 1238 Principles of Real Estate II (521501)

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. (2:2-0)

RELE 1303 Real Estate Appraisal (521501)

(Formerly Real Estate 232, REAE 2312, REAL 2312)

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. Prerequisite or Co-Requisite: RELE 1201 or department chair approval. (3:3-0)

RELE 1307 Real Estate Investments (521501)

(Formerly REAE 2319, and REAL 2319)

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. Prerequisite or Co-Requisite: RELE 1201 or department chair approval. (3:3-0)

RELE 1309 Real Estate Law (521501)

(Formerly Real Estate 233, REAE 2313, REAL 2313)

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. Prerequisite or Co-Requisite: RELE 1201 or department chair approval. (3:3-0)

RELE 1311 Law of Contracts (521501)

(Formerly REAL 1303)

Elements of a contract, offer and acceptance, statute of frauds, specific performance and remedies for breach, unauthorized practice of law, commission rules relating to use of adopted forms, and owner disclosure requirements (3:3-0)

RELE 1319 Real Estate Finance (521501)

(Formerly REAL 2314)

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. (3:3-0)

RELE 1321 Real Estate Marketing (521501)

(Formerly REAE 2318, REAL 2318)

A study of real estate professionalism and ethics, characteristics of successful salespersons, time management, psychology of marketing, listing procedures, advertising, negotiating and closing, financing, the Deceptive Trade Practice Act. Prerequisite or Co-Requisite: RELE 1201 or department chair approval. (3:3-0)

RELE 1325 Real Estate Mathematics (270301)

(Formerly Real Estate 234, REAE 2314, REAL 2315)

Basic arithmetic skills. Includes mathematical logic, percentages, interest, time value of money, depreciation, amortization, proration, and estimation of closing statements. (3:3-0)

RELE 2209 Principles of Real Estate II (521501)

(Not offered after Summer 2006 [200630])

An overview of licensing as a real estate broker and salesperson, ethics of practice, titles to and conveyance of real estate, legal descriptions, law of agency, deeds, encumbrances and liens, distinctions between personal and real property, contracts, appraisal, finance and regulations, closing procedures, and real estate mathematics. Also includes federal, state, and local laws relating to housing discrimination, hous-

ing credit discrimination, and community reinvestment. Emphasis in licensing a real estate salesperson and broker; sources and types of financing; taxes; title closing and escrow; leases; appraisal; agency relationships; condominiums; land use controls; real estate investments; and federal, state, and local laws relating to housing discrimination, housing credit discrimination, and community reinvestment. (2:2-0)

RELE 2301 Law of Agency (220101)

(Formerly REAL 1302)

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. (3:3-0)

RELE 2366 Practicum-Real Estate (521501)

A basic or intermediate type of non-health professions work-based instruction that provides basic career exploration or helps students gain practical experience in the discipline, enhance skills, and integrate knowledge. The emphasis is on practical work experience. Indirect supervision is provided by the work supervisor. A practicum may be a paid or unpaid learning experience. 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. Prerequisite: Must have a job (paid or unpaid) working in a real estate related position at least 20 hours per week. (3:1-20)

RELE 2367 Practicum-Real Estate (521501)

(Formerly REAL 2375)

A basic or intermediate type of non-health professions work-based instruction that provides basic career exploration or helps students gain practical experience in the discipline, enhance skills, and integrate knowledge. The emphasis is on practical work experience. Indirect supervision is provided by the work supervisor. A practicum may be a paid or unpaid learning experience. 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. Prerequisite: Must have a job (paid or unpaid) working in a real estate related position at least 20 hours per week. (3:1-20)

Respiratory Care

HPRS 1106 Medical Terminology Essentials (510908)

(Formerly RSPT 1103)

A study of common medical terminology, word origin, structure and application. (1:1-0)

RSPT 1103 Medical Terminology (510908)

(Formerly RESC 1101)

(Not offered after Summer 2006 [200630])

An introduction to medical terms which will provide the student with the written and verbal skills necessary to communicate with health care personnel. (1:1-0)

RSPT 1267 Respiratory Care Practicum I (510908)

(Formerly RESC 1222)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. The course provides the student with the opportunity to learn about the hospital environment and the Respiratory Care Department. It includes basic cardiopulmonary resuscitation, basic patient care skills, patient assessment, gas and aerosol therapy, hyperinflation therapy, chest physiotherapy airway, care, and arterial blood gas sampling and analysis. Prerequisite: RSPT 1429. Co-Requisite: RSPT 1431. (2:0-16)

RSPT 1317 Pharmacology for Respiratory Care (510908)

(Not offered after Summer 2006 [200630])

(Formerly Respiratory therapy Technology 135, Pharmacology 131, RETT 1315, RESC 1315, RESC 1315)

A study of pharmacological principles/practices of drugs which affect the cardiopulmonary systems. Emphasis on classification, route of administration, dosages/calculations, and interaction of the autonomic nervous system. (3:3-0)

RSPT 1325 Respiratory Care Sciences (510908)

(Formerly Respiratory Therapy Technology 122, RETT 1212, RESC 1212, RESC 1212, RESC 1312)

A study of cardiopulmonary sciences, including physics, math, chemistry, and statistics. (3:3-0)

RSPT 1340 Advanced Cardiopulmonary Anatomy and Physiology (510908)

(Formerly Respiratory Therapy Technology 132, RETT 1312, RESC 1312, RESC 1300)

Provides an advanced presentation of anatomy and physiology of the cardiovascular and pulmonary system. (3:3-1)

RSPT 1429 Respiratory Care Fundamentals I (510908)

(Formerly Respiratory Therapy Technology 141, Respiratory Therapy Technology 131, RETT 1411, RESC 1411, RESC 1411)

Provides a foundation for the development of knowledge and skills for respiratory care, including history, medical terms/symbols, medical/legal, infection control, vital signs, physical assessment, chest x-ray interpretation, medical gas therapy, oxygen analyzers, and humidity/aerosol therapy. (4:3-3)

RSPT 1431 Respiratory Care Fundamentals II (510908)

(Formerly Respiratory Therapy Technology 142, Respiratory Therapy Technology 241, RETT 1412, RESC 1412, RESC 1412)

Provides a foundation for the development of knowledge and skills for respiratory care, including lung expansion therapy, postural drainage and percussion, artificial airways, manual resuscitation devices, suctioning, pulse oximetry, bedside spirometry, arterial sampling techniques, and blood gas analysis and interpretation. Prerequisite: RESP 1429. (4:3-3)

RSPT 2130 Examination Preparation (510908)

(Formerly RSPT 2131)

Comprehensive review for selected respiratory care credentialing examinations. Test matrices and exam content area for selected exams will be presented. Learning Outcomes: Explain the matrices and content area of selected exams; demonstrate the ability to use a computerized testing format; and employ test taking skills. (1:1-1)

RSPT 2131 (Clinical) Simulations in Respiratory Care (510908)

(Not offered after Summer 2006 [200630])

The theory and history of clinical simulation examinations. Topics include the construction types, scoring, and mechanics of taking the exams, along with practice in taking both written and computerized simulations, and basic concepts of computer usage. (1:1-0)

RSPT 2167 Respiratory Care Practicum II (510908)

(Formerly Respiratory Therapy Technology 211, RETT 2111, RESC 2211)

Practical general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course is designed to provide increased exposure to management of the critically ill patient. It includes active participation in physician rounds, and specialized monitoring. It also includes presentation of patient studies in a panel discussion format and practical aspects in the formulation of respiratory care plans. Prerequisite: RSPT 1267, Co-Requisite: RSPT 2314. (1:0-10)

RSPT 2258 Advanced Respiratory Care Patient Assessment (510908)

(Formerly RESC 2333)

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. Prerequisite: RSPT 2355 (2:2-1)

RSPT 2266 Respiratory Care Practicum III (510908)

(Formerly Respiratory Therapy Technology 212, RETT 2112, RESC 2212)

Practical general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course provides the student with an opportunity to care for the critically ill pediatric and neonatal patient. It includes active participation in physician rounds and special monitoring instrumentation and techniques of the pediatric and neonatal patient. Emphasis in this course is also placed on special problems in ventilation. It also includes presentation of patient studies with practical aspect in the formulation of a respiratory care plan. Prerequisite: RSPT 2167 and Co-Requisite: RSPT 2353. (2:0-16)

RSPT 2267 Respiratory Care Practicum IV (510908)

(Formerly RETT 2113, RESC 2213)

Practical general workplace training supported by an individualized learning plan developed by the employer, college, and student. The course provides the student with the opportunity to observe and study diagnostic testing of the pulmonary system. Through specialty rotations in the emergency room, emergency triage and care of the traumatically injured patient are demonstrated to the student. The student is presented the opportunity to refine skills in assessment and procedures via rotations through the

adult intensive care units. Instruction in the Advanced Cardiac Life Support (ACLS) program of the American Heart Association will be provided. Prerequisite: RSPT 2266 and Co-Requisite: RSPT 2258. (2:0-16)

RSPT 2310 Cardiopulmonary Disease (51.0908)

(Formerly Respiratory Therapy Technology 134, RETT 1314, RESC 1314)

A discussion of pathogenesis, pathology, diagnosis, history, prognosis, manifestations, treatment, and detection of cardiopulmonary diseases. Prerequisite: RESP 1429. (3:3-0)

RSPT 2314 Mechanical Ventilation (510908)

(Formerly RESC 2215)

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. Prerequisite: RSPT 1431. (3:3-1)

RSPT 2317 Respiratory Care Pharmacology (510908)

(Formerly RSPT 1317)

A study of pharmacological principles/practices of drugs which affect the cardiopulmonary systems. Emphasis on classification, route of administration, dosages/calculations, and physiological interactions. (3:3-0)

RSPT 2353 Neonatal/Pediatric Cardiopulmonary Care (510908)

(Formerly RETT 2322, RESC 2322, RESC 2322)

A study of acute care, monitoring, and management as applied to the neonatal and pediatric patient. Prerequisite: RSPT 2314. (3:3-1)

RSPT 2355 Critical Care Monitoring (510908)

(Formerly Respiratory Therapy Technology 231, RETT 2311, RESC 2311, RESC 2311)

Introduction to monitoring techniques used clinically to assess a patient in the critical care setting. (3:3-1)

Restaurant Management

(See Culinary Arts)

Sheet Metal**Sheet Metal Certificate****Non-Credit Continuing Education Courses****MCHN 1001 Sheet Metal I**

(Continuing Education Course)

An introduction to the materials, tools, and techniques used in the sheet metal industry. Review of trade math problems involving measurement of lines, area, volume, weight, and geometric figures. Introduction of types and uses of hand, layout, and cutting tools along with bending and forming machines. Practice with material types and properties along with the principles of layout and metal forming. (72 contact hours)

MCHN 1049 Sheet Metal II

(Continuing Education Course)

An introduction to various types of pipe and fittings. Emphasis on principles and types of fittings for radial line development, and factors that influence bend allowances and calculations necessary for determining proper bend allowances. Introduction to principles of soldering roof flashings, gutters, down spouts, and sheet metal duct fabrications. (72 contact hours)

MCHN 1053 Sheet Metal III

(Continuing Education Course)

An introduction to the principles of airflow 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 ductwork. (72 contact hours)

MCHN 1071 Sheet Metal IIB

(Continuing Education Course)

A continuation of the study of various types of pipe and fittings. Emphasis on using blueprints and shop drawings to determine bend allowances and calculations necessary for determining proper bend allowances in soldering roof flashings, gutters, down spouts, and sheet metal duct fabrications. (72 contact hours)

MCHN 1072 Sheet Metal IIIB

(Continuing Education Course)

A continuation to the study of triangulation layout and fabrication and fiberglass ductwork. Application of field measurements for layout and installation of duct sections and offsets. (72 hours)

Course Descriptions

MCHN 2030 Sheet Metal IV

(Continuing Education Course)

A comprehensive review of developmental and fabrication techniques. Introduction to the concepts of shop production and organization, and to elements of air balance and specialty applications related to louvers, dampers, access doors, ventilators, and fume and exhaust systems. (72 contact hours)

MCHN 2071 Sheet Metal IVB

(Continuing Education Course)

Extensive practical application of parallel line development, radial line development, and triangulation methods of fabrication used in the layout and fabrication of sheet metal air systems. (72 contact hours)

Sociology

SOCI 1301 Introduction to Sociology (4511015125)

(Formerly Sociology 234, SOCI 2314)

A study of the patterns of social behavior. The student is introduced to the scope and the objectives of sociology, as well as to basic sociological concepts. Prerequisite: Reading Level 6. (3:3-0)

SOCI 1306 Social Problems (4511015225)

(Formerly Sociology 235, SOCI 2315)

A study of the problems of social disorganization such as crime, delinquency, group prejudice, dependency, divorce, and world social problems. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

SOCI 2301 Intimate Relationships: Marriage and Family (4511015425)

(Formerly Sociology 237, SOCI 2317)

A study of the issues, and trends relating to courtship, mate-selection, and marital adjustment, together with a comprehensive study of the family as a social institution. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

SOCI 2306 Human Sexuality (4201015325)

This course covers the physical, psychological, and sociological facets of human sexuality. The course exposes students to the various scholarly research in this interdisciplinary field. Emphasis is placed on self-awareness of one's own sexuality and adjustment, the interpersonal aspects of sexuality, and the social impact that sexual decisions and behavior have on society. This course is also listed as PSYC 2306; however, credit hours are limited to either

Psychology OR Sociology. Prerequisites: SOCI 1301 or PSYC 2301; Reading Level 7 and Writing Level 7. (3:3-0)

SOCI 2319 Multi-Cultural Studies (4511015325)

(Formerly Sociology 239)

A study of the principal minority groups in American society and other selected cultures: their history, sociological significance, problems of inter-group relations, social movement, and related contemporary problems with particular emphasis on the ethnic components of Texas society. Prerequisites: Reading Level 7 and Writing Level 7. (3:3-0)

SOCI 2336 Criminology (4504015125)

(Formerly Sociology 2316, SOCI 2316)

An examination of current trends in the nature and causes of crime, indexes of crime, perspectives and methods in criminology, psychopathy and crime, culture areas and crime, processes in criminal behavior, and sociological aspects of criminal law and procedure. Prerequisites: SOCI 1301 or approval of division chair, Reading Level 7 and Writing Level 7. (3:3-0)

Speech

SPCH 1145 Forensic Activities (2310016012)

(Formerly Speech 111, 112, 211, 212, SPCH 1111)

This course includes intensive preparation for intercollegiate competition in debate and/or speech events. Course may be taken a maximum of four times for credit. Prerequisite: Reading Level 7. (1:0-3)

SPCH 1315 Public Speaking (2310015312)

(Formerly Speech 131, SPCH 1311)

Introduction to public speaking. Training in principles of speech composition and delivery. Introduction to various types of speaking situations. Prerequisite: Reading Level 6. (3:3-0)

SPCH 1318 Interpersonal Communications (2310015412)

(Formerly Speech 132, SPCH 1312)

Theory and practice of person-to-person interaction, including the study of listening, verbal communication and non-verbal communication. Prerequisite: Reading Level 6. (3:3-0)

SPCH 1321 Business and Professional Speech (2310015212)

(Formerly Speech 134, SPCH 1314)

A course designed to develop the student's ability to communicate effectively in situations that arise in business and professional

life. Topics will include communication theory; the research, organization and presentation of business speeches; small group discussion; and interviewing. Prerequisite: Reading Level 6. (3:3-0)

SPCH 1342 Voice and Diction (2310015812)

(Formerly Speech/Drama 232, SPCH 2312)

Instruction in the development of effective habits in the use of the speaking voice. Emphasis upon the study of English phonetics, phrasing, intonation, and voice production. Training is given to enable the student to listen intelligently to the sound of his/her own voice. Student cannot receive credit for both SPCH 1342 and DRAM 2336. Prerequisite: Reading Level 6. (3:3-0)

SPCH 2333 Discussion and Small Group Communication (2310015612)

(Formerly Speech 235, SPCH 2315)

Discussion and small group theories and techniques as they relate to group processes and interaction. Prerequisite: Reading Level 7. (3:3-0)

SPCH 2335 Argumentation and Debate (2310015912)

(Formerly Speech 233, SPCH 2313)

Instruction in the principles of argumentation and debate; analysis and discussion of current public questions in briefing, strategy and refutation. Students will not receive credit for both SPCH 2335 and SPCH 2336. Prerequisite: Reading Level 7. (3:3-0)

SPCH 2336 Forensics (2310016012)

(Formerly Speech 234, SPCH 2314)

Open to students in interpretation and forensics as related to competition and public performance. Students will not receive credit for both SPCH 2335 and SPCH 2336. Prerequisite: Reading Level 7. (3:3-0)

SPCH 2341 Oral Interpretation (2310015712)

(Formerly Speech/Drama 231, SPCH 2311)

Introduction to oral interpretation of literature. Preparation and reading of printed material. Practical experience in storytelling and choral speaking. Instruction in techniques and analysis of literature to be read aloud. Emphasis on the techniques of oral reading. Students cannot receive credit for both SPCH 2341 and DRAM 2341. Prerequisite: Reading Level 6. (3:3-0)

Study Skills

(See Developmental Studies)

Surgical Technology

HPRS 2200 Pharmacology for Health Professions (519999)

A study of drug classifications, actions, therapeutic uses, adverse effects, methods of administration, client education, and calculation and dosages. Prerequisites: Reading Level 7, and Writing Level 6. (2:2-0)

HPRS 2301 Pathophysiology (519999)

Study of the pathology and general health management of diseases and injuries across the life span. Topics include etiology, symptoms, and physical and physiological reactions to diseases and injuries leading to surgical intervention. Prerequisites: Reading Level 4, Writing Level 4. (3:3-0)

SRGT 1201 Medical Terminology (510909)

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. Prerequisite: Reading Level 7, Writing Level 6. (2:2-0)

SRGT 1260 Clinical 1 Surgical (510909)

(Formerly SURT 1201)

A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the College faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary. Introductory level. Prerequisites: SRGT 1201, Reading Level 7 and Writing Level 6. Co-Requisite: SRGT 1505, SRGT 1409, VNSG 1420 (2:0-8)

SRGT 1261 Clinical 3 Surgical (510909)

(Formerly SURT 1203)

A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the College faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary. Advanced level. Prerequisite: HPRS 2200, HPRS 2301, SRGT 1201, SRGT

1260, SRGT 1360, SRGT 1505, SRGT 1509, SRGT 1441, VNSG 1420, Reading Level 7, and Writing Level 6. (2:0-12)

SRGT 1360 Clinical 2 Surgical (510909)

(Formerly SURT 1302)

A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the College faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary. Intermediate level. Prerequisites: SRGT 1201, SRGT 1260, SRGT 1505, SRGT 1509, VNSG 1420, Reading Level 7 and Writing Level 6. (3:0-14)

SRGT 1441 Surgical Procedures I (510909)

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. Prerequisite: SRGT 1201, SRGT 1260, SRGT 1505, SRGT 1509, VNSG 1420, Reading Level 7, and Writing Level 6. (4:4-0)

SRGT 1442 Surgical Procedures II (510909)

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. Prerequisites: HPRS 2200, HPRS 2301, SRGT 1201, SRGT 1260, SRGT 1360, SRGT 1505, SRGT 1509, SRGT 1441, VNSG 1420, Reading Level 7, and Writing Level 6. (4:4-0)

SRGT 1505 Introduction to Surgical Technology (510909)

Orientation to surgical technology theory, surgical pharmacology and anesthesia, patient care concepts, electricity, basic computer skills, and technological sciences as related to the surgical technologists. Prerequisite: SRGT 1201 and Reading Level 7, Writing Level 6. (5:5-1)

SRGT 1509 Fundamentals of Aseptic Technique (510909)

In-depth coverage of perithe trauma, pediatric, and the oncology patient will be addressed. Prerequisites: HPRS 2200, HPRS 2301, SRGT 1201, SRGT 1260, SRGT

1360, SRGT 1505 SRGT 1509, SRGT 1441, VNSG 1420, Reading Level 7, and Writing 6. (5:4-3)

SRGT 2371 Special Cases/Needs (510909)

This course provides specific techniques and safety measures of laser technology in the operating room, focusing on concepts of tissue interaction and problem solving. Analyzing needed surgical intervention for the trauma, pediatric, and the oncology patient will be addressed. Prerequisites: HPRS 2200, HPRS 2301, SRGT 1201, SRGT 1260, SRGT 1360, SRGT 1505 SRGT 1509, SRGT 1441, VNSG 1420, Reading Level 7, and Writing Level 6. (3:3-0)

VNSG 1420 Surgical Technology Anatomy and Physiology for Allied Health (511613)

Introduction to the normal structure and function of the body including an understanding of the relationship of body systems in maintaining homeostasis. Prerequisite: Reading Level 7 and Writing Level 6. (4:4-0)

Surveying

See Geomatic Surveying Technology

Truck Driving (Commercial)

CVOP 1013 Commercial Vehicle Operator I (490205)

CVOP 1013 is the first of two 120-clock hour courses in the Commercial Truck Driving. This course is designed to familiarize students with the basic operations of a tractor-trailer combination. It consists of thirty (30) hours of classroom lecture and demonstration, and ninety (90) hours of actual hands-on tractor-trailer operation. Co-Requisite: CVOP 1040.

CVOP 1040 Commercial Vehicle Operator II (490205)

CVOP 1040 is the second and final 120-clock hour course in the Commercial Truck Driving. This course is designed to provide classroom instruction in loading and unloading, plus hands-on application in routine equipment maintenance and driver's daily log book entries. Several long-haul trips are taken, and the Department of Transportation (DOT) written and driving exams are administered. Co-Requisite: CVOP 1013.

Vision Care Technology

HPRS 1101 Introduction to Health Professions (510000)

An overview of roles of various members of the health care system, educational requirements, and issues affecting the delivery of health care. (1:1-0)

HPRS 1105 Medical Law/Ethics for Health Professionals (519999)

Introduction to the relationship between legal aspects and ethics in health care, with emphasis on responsibilities of health care professionals. (1:1-0)

OPTS 1166 Ophthalmic Practicum I (511801)

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. (1:0-8)

OPTS 1311 Visual System (511802)

Overview of the ophthalmic field, including the anatomy and physiology of the eye, related structures, and the visual system. (3:3-0)

OPTS 1315 Basic Contact Lenses (511802)

Introduction to contact lens theory and practice. Topics include the history, development, and manufacture of contact lenses; lens materials, designs, fitting, and care techniques; and skill necessary for the accurate measurement of lens parameters. (3:2-3)

OPTS 1319 Vision Care Office Procedures (511802)

(Not offered after Fall 2003 [200410])
Overview of procedures used in an optical, optometric, or ophthalmological office. Instruction on government, third party, and other managed care insurance claim forms, maintenance of patient records, safety regulations, correspondences and ethics. (3:3-0)

OPTS 1391 Special Topics in Opticianry/Dispensing Optician (511801)

(Course not offered after Summer 2005)
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 (3:2-3).

OPTS 1501 Ophthalmic Dispensing (511801)

Introduction to the basic principles of frame selection, styling, refractive errors, and lens design, and to the use of tools and instruments used to measure and make adjustments necessary to properly dispense spectacles. (5:3-6)

OPTS 2266 Ophthalmic Practicum II (511801)

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 of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary. (2:0-16)

OPTS 2335 Advanced Contact Lenses (511802)

Emphasizes the knowledge and skills necessary to assist the practitioner in the dispensing, evaluation, and care of soft, rigid, toric, multi-focal, therapeutic, and other specialty contact lenses. (3:2-3)

OPTS 2350 Ophthalmic Surgical Techniques (511802)

A continuation of Ophthalmic Techniques. Introduces the student to aseptic and non-aseptic sterilization techniques used in the surgical field and provides knowledge and practice in scrubbing techniques used when assisting during ophthalmic surgical procedures. (3:3-2)

OPTS 2431 Advanced Ophthalmic Dispensing (511801)

Advanced study of the procedures necessary to dispense. Topics include lens aberrations, magnification, tilt, reflection, absorption and transmission, advanced lens materials, high-powered prescription considerations, and partial vision. (4:2-6)

OPTS 2441 Ophthalmic Techniques (511802)

Presentation of information and practical training in the techniques necessary to properly assist the refractionist or eye physician. Topics include visual acuity assessments and performance of various diagnostic tests. (4:2-6)

OPTS 2445 Advanced Ophthalmic Techniques (511802)

Continuation of ophthalmic techniques. Introduction to principles and techniques of various diagnostic evaluations. Topics include refractometry and retinoscopy, ophthalmic photography, applanation tonometry, and advanced clinical assessments. An overview of standardized tools prevalent in the field will be covered. (4:2-6)

POFM 1327 Medical Insurance (510716)

Survey of medical insurance including the life cycle of various claim forms, terminology, litigation, patient relations, and ethical issues. (3:3-0)

VNSG 1420 Surgical Technology Anatomy and Physiology for Allied Health (511613)

Introduction to the normal structure and function of the body including an understanding of the relationship of body systems in maintaining homeostasis. Prerequisite: Reading Level 7 and Writing Level 6. (4:4-0)

Visual Communication

(Formerly Commercial Art; see Art and Visual Communication for course descriptions)

Welding Technology

Credit Courses

WLDG 1528 Introduction to Shielded Metal Arc Welding (SMAW) (480508)

(Formerly WELD 1511)

An introduction to the shielded metal arc welding process. Emphasis placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction provided in SMAW fillet welds in various positions. (5:3-5)

WLDG 1530 Introduction to Gas Metal Arc (GMAW) Welding (480508)

(Formerly WELD 1519)

A study of the principles of gas metal arc welding, setup and use of GMAW equipment, and safe use of tools and equipment. Instruction in various joint designs. (5:3-5)

WLDG 1534 Introduction to Gas Tungsten Arc (GTAW) Welding (480508)

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. (5:3-5)

WLDG 1535 Introduction to Pipe Welding (480508)

(Formerly WELD 2511)

An introduction to welding of pipe using the shielded metal arc welding process, including electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 1G and 2G using various electrodes. Prerequisite: WLDG 2543 or department chair approval. (5:3-5)

WLDG 2409 Welding Codes (480508)

(Formerly WELD 1503)

An in-depth study of welding codes and their development in accordance with structural standards, welding processes, and destructive and nondestructive test methods. (4:4-0)

WLDG 2513 Welding Using Multiple Processes (480508)

(Not offered after Fall 2005)

Instruction using layout tools and blueprint reading, with demonstration and guided practices in two of the following welding processes which meet industrial demands: oxy-fuel gas cutting and welding, shielded metal arc welding, gas metal arc welding, flux-cored arc welding, gas tungsten arc welding, or any other approved welding process. Prerequisite: WLDG 1530 or department chair approval. (5:3-5)

WLDG 2543 Advanced Shielded Metal Arc Welding (SMAW) (480508)

(Formerly WELD 1512)

Advanced topics based on accepted welding codes. Training provided with various electrodes in shielded metal arc welding with open V-groove joints in all positions. Prerequisite: WLDG 1528 or approval of department chair. (5:3-5)

WLDG 2551 Advanced Gas Tungsten Arc (GTAW) Welding (480508)

(Formerly WELD 2512)

Advanced topics in GTAW welding, including welding in various positions and directions. Prerequisite: WLDG 1534 or department chair approval. (5:3-5)

WLDG 2553 Advanced Pipe Welding (480508)

Advanced topics involving welding of pipe using the shielded metal arc welding process. Topics include electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 5G and 6G using various electrodes. Prerequisite: WLDG 1535 or department chair approval. (5:3-5)

WLDG 2571 Advanced Gas Tungsten Arc Welding Stainless Steel (480508)

(Formerly WELD 2523)

An in-depth study of welding stainless steel. Instruction provided on SMAW and GTAW welding in various position groove welds. Prerequisite: WLDG 2551 or department chair approval. (5:3-5)

WLDG 2572 Advanced Gas Tungsten Arc Welding Low Alloy (480508)

(Not offered after Fall 2005)

An in-depth study of welding low alloy steel pipe using the GTAW process. Emphasis placed on electrode selection and various joint designs. Prerequisite: WLDG 2551 or department chair approval (5:3-5).

Non-Credit Continuing Education Courses Welding Certificate

WLDG 1028 Introduction to Shielded Metal Arc Welding (SMAW) (480508)

An introduction to shielded metal arc welding process. Emphasis placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction provided in SMAW fillet welds in various positions. (128 contact hours)

WLDG 1034 Introduction to Gas Tungsten Arc (GTAW) Welding (480508)

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 to various positions on joint design. (128 contact hours)

WLDG 1035 Introduction to Pipe Welding (480508)

An introduction to welding of pipe using the shielded metal arc welding process, including electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 1G and 2G, using various electrodes. (128 contact hours)

WLDG 2043 Advanced Shielded Metal Arc Welding (SMAW) (480508)

Advanced topics based on accepted welding codes. Training provided with various electrodes in shielded metal arc welding processes with open V-groove joint positions. (128 contact hours)

WLDG 2051 Advanced Gas Tungsten Arc (GTAW) Welding (480508)

Advanced topics in GTAW welding, including welding in various positions and directions. (128 contact hours)

WLDG 2053 Advanced Pipe Welding (480508)

Advanced topics involving welding of pipe using the shielded metal arc welding process. Topics include electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 5G and 6G using various electrodes. (128 contact hours)