CTEC 1401 Applied Petrochemical Technology
This course offers instruction in the basic principles of physics and its application to process facilities. Topics include physical laws and properties and how these relate to the operation of processes. Students 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. Prerequisites: MATH 1333 or MATH 1314 or higher, Reading level 7, Writing level 7, Math level 7 (4:3-3)

CTEC 2387 Internship - Chemical Technology/Technician
This course is designed to provide advanced students with work based learning experience that enables the student to apply specialized occupational theory, skills, and concepts in the processing industry. A learning plan is developed by the college and the employer. 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 worksite to evaluate student progress through interviews with both the student and the industry mentor. This may be a paid or unpaid experience. Department chair approval required. Prerequisites: Reading level 7, Writing level 7, Math level 7 (3:0-18)

CTMT 2336 Computed Tomography Equipment and Methodology
This is 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. Prerequisite: ARRT certified or registry eligible. (3:3-0)

CTMT 2360 Clinical 1-Computed Tomography Technology/Technician
This is 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: ARRT certified with Instructor approval, and Prerequisite or Co-requisite: CTMT 2336 (3:0-12)

CTMT 2361 Clinical 2-Computed Tomography Technology/Technician
This is 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 clinical setting. Prerequisite: ARRT certified with Instructor approval, and Prerequisite or Co-requisite: CTMT 2336 (3:0-12)

DAAC 1304 Pharmacology of Addiction
This course emphasizes pharmacological effects of addiction, tolerance, dependence, cross addiction, drug interaction, withdrawal, and recovery. Describes the psychological and physiological effects of substance use and behaviors. Prerequisites: Reading level 6, Writing level 6 (3:3-0)

DAAC 1311 Counseling Theories
This is an examination of the major theories and current treatment modalities used in the field of counseling. Prerequisites: Reading level 6, Writing level 6 (3:3-0)

DAAC 2307 Addicted Family Intervention
This is an examination of family systems focusing on the effects of addiction and recovery. Prerequisite: DAAC 1304 (3:3-0)

DAAC 2341 Counseling Alcohol and Other Drug Addictions
This is an advanced examination of skills, confidentiality, and ethical guidelines applied in the counseling, treatment, and recovery of substance use disorders. Prerequisites: Reading level 6, Writing level 6 (3:3-0)

DAAC 2366 Practicum - Substance Abuse/Addiction Counseling
This course is a practicum, 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)

DANC 1101 Dance Composition I
This course includes 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
This course includes 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
This course includes exploration of dance as an art form through participation in and performance of choreographed works. Co-requisite: concurrent enrollment in ballet or modern or department chair approval required. (1:0-4)

DANC 1152 Dance Performance II
This course includes exploration of dance as an art form through participation in and performance of choreographed works. Co-requisite: concurrent enrollment in ballet or modern or department chair approval required. (1:0-4)
**DANC 1341 Ballet I**
This course includes introduction to the theory, practice, and terminology of classical ballet with emphasis on development and refinement of barre and center technique. (3:1-5)

**DANC 1342 Ballet II**
This course includes continuation and progression of DANC 1341 with emphasis on development and refinement of barre and center technique. (3:1-5)

**DANC 1345 Modern Dance I**
This course includes beginning technique in modern dance with emphasis on floor and center work, basic rhythm, and movement combinations. (3:1-5)

**DANC 1346 Modern Dance II**
This course includes continuation and progression of DANC 1345 with emphasis on floor and center work, rhythm, and movement combinations. (3:1-5)

**DANC 2151 Dance Performance III**
This course includes exploration of dance as an art form through participation in and performance of choreographed works. Co-requisite: concurrent enrollment in ballet or modern or department chair approval required. (1:0-4)

**DANC 2152 Dance Performance IV**
This course includes exploration of dance as an art form through participation in and performance of choreographed works. Co-requisite: concurrent enrollment in ballet or modern or department chair approval required. (1:0-4)

**DANC 2303 Dance Appreciation**
This course is an 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 and Writing level 7 (3:3-0)

**DANC 2325 Anatomy and Kinesiology for Dance**
This course is an exploration of the sciences of anatomy and kinesiology as they apply to and support the analysis of human movement. Prerequisite: Reading level 6 and Writing level 6 (3:3-1)

**DANC 2341 Ballet III**
This is a 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. (3:1-5)

**DANC 2342 Ballet IV**
This is a further exposure to the theory, practice, and terminology of classical ballet with emphasis on expansion and refinement of the skills developed in DANC 2341. (3:1-5)

**DANC 2345 Modern Dance III**
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. (3:1-5)

**DANC 2346 Modern Dance IV**
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. (3:1-5)

**DEMR 1229 Preventative Maintenance**
This is an introductory course designed to provide the student with basic knowledge of proper servicing practices. Content includes record keeping and condition of major systems. (2:1-2)

**DEMR 1301 Shop Safety and Procedures**
This is a study of shop safety, rules, basic shop tools, and test equipment. Prerequisite: Reading level 4 (3:3-0)

**DEMR 1306 Diesel Engine I**
This is an introduction to the basic principles of diesel engines and systems. Prerequisite: Reading level 4 (3:2-4)

**DEMR 1307 Basic Brake Systems**
This is an introduction to the basic principles of brake systems of diesel powered equipment, with an emphasis on maintenance, repairs, and troubleshooting. (3:2-4)

**DEMR 1380 Cooperative Education-Diesel Mechanics**
This course offers 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. This course is designed to substitute for a DEMR three semester hour course in which a student has extensive diesel work experience and in which the student is currently working. The student must have permission from the lead diesel instructor before he/she can enroll in this class. This course can be taken only once for credit. Course includes a lecture component. Prerequisite: 12 credit hours in diesel technology at San Jacinto College (3:1-20)

**DEMR 1405 Basic Electrical Systems**
This is 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 1410 Diesel Engine Testing and Repair I**
This is an introduction to testing and repairing diesel engines including related systems and specialized tools. (4:3-3)

**DEMR 1421 Power Train I**
This is an introduction to fundamentals, repair and theory of power trains including clutches, transmissions, drive shafts, and differentials, with an 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 1423 Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair
This is an introduction to heating, ventilation, and air conditioning theory, testing and repair, with an emphasis on refrigerant reclamation, safety procedures, specialized tools and repairs. Prerequisite: Reading level 4 (4:3-3)

DEMR 1449 Diesel Engine II
This course is an in-depth coverage of disassembly, repair, identification, evaluation, and reassembly of diesel engines. Prerequisite: Reading level 4 (4:3-3)

DEMR 1480 Cooperative Education-Diesel Mechanics
This course offers 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. This course is designed to substitute for a DEMR four semester hour course in which a student has extensive diesel work experience and in which the student is currently working. The student must have permission from the lead diesel instructor before he/she can enroll in this class. This course can be taken only once for credit. Course includes a lecture component. Prerequisite: 12 credit hours in diesel technology at San Jacinto College (4:1-25)

DEMR 2266 Field Experience-Diesel Mechanics
This course offers practical and general workplace training supported by an individual learning plan developed by the employer, college, and student. Prerequisite: 15 credit hours in diesel technology at San Jacinto College (2:0-16)

DEMR 2334 Advanced Diesel Tune-up and Troubleshooting
This course includes advanced concepts and skills required for tune-up and troubleshooting procedures of diesel engines, with an emphasis on the science of diagnostics with a common sense approach. Prerequisite: Reading level 4 (3:2-4)

DEMR 2412 Diesel Engine Testing and Repair II
This course is a continuation of Diesel Engine Testing and Repair I. It includes coverage of testing and repairing diesel engines including related systems and specialized tools. Prerequisite: Reading level 4 (4:3-3)

DEMR 2432 Electronic Controls
This course covers advanced skills in diagnostic and programming techniques of electronic control systems. Prerequisite: Reading level 4 (4:3-3)

DFTG 1402 Introduction to Technical Animation and Rendering
This course focuses on the basic study of technical computer models and animation. (4:3-3)

DFTG 1405 Technical Drafting
This course is an 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 (CAD)
This course in an introduction to computer-aided drafting with an emphasis on setup, creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects, adding text and dimensions, using layers, coordinate systems, and plot/print to scale. (4:3-3)

DFTG 1410 Specialized Basic Computer Aided Drafting (CAD)
This is a supplemental course to Basic Computer-Aided Drafting using an alternative computer-aided drafting (CAD) software to create detail and working drawings. (4:3-3)

DFTG 1413 Drafting for Specific Occupations
This is a 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
This course focuses on architectural drafting procedures, practices, terms, and symbols, including preparation of detailed working drawings for residential structures with emphasis on light frame construction methods. Prerequisites: DFTG 1405 or DFTG 1413, and DFTG 1409 or department chair approval (4:3-3)

DFTG 1441 Intermediate Technical Animation and Rendering
This course focuses on 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 architectural/mechanical models. Prerequisite: DFTG 1402 or department chair approval (4:3-3)

DFTG 1445 Parametric Modeling and Design
This course offers training with a parametric-based software for 3D design and drafting. (4:3-3)

DFTG 1495 Special Topics in Mechanical Drafting and Mechanical Drafting CAD/CADD
This course focuses on topics addressed recently and identified as 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: DFTG 2402 or department chair approval (4:3-3)
DFTG 2386 Internship-Drafting and Design Technology/Technician
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. An internship may be either paid or unpaid. Students will have one orientation class with the instructor at the start of the semester. The job description for the worksite must relate to the general curriculum of the engineering design graphics department. Department chair approval required. NOTE: 16 hours of engineering design graphics courses from the following group: ARCE 1452, ARTV 1440, DFTG 1417, DFTG 2402, DFTG 2406, DFTG 2407, DFTG 2408, DFTG 2421, DFTG 2423, DFTG 2428, DFTG 2445, DFTG 2458; eight of these credits must be earned at San Jacinto College (3:0-18)

DFTG 2402 Machine Drafting
This course will include a study of production of detail and assembly drawings of machines, threads, gears, utilizing tolerances, limit dimensioning, and surface finishes. Prerequisites: DFTG 1405 and DFTG 1409 or department chair approval (4:3-3)

DFTG 2407 Electrical Drafting
This course is a study of area lighting, control systems and power layouts, electrical and safety codes, local factors and distribution requirements. Prerequisites: DFTG 1405 and DFTG 1409 or department chair approval (4:3-3)

DFTG 2408 Instrumentation Drafting
This course will include a study of principles of instrumentation applicable to industrial applications, fundamentals of measurement and control devices, currently used ISA (Instrumentation Society of America) symbology, and basic flow sheet layout and drafting practices. Prerequisites: DFTG 1405 and DFTG 1409 or department chair approval (4:3-3)

DFTG 2417 Descriptive Geometry
This course focuses on developing graphical solutions to problems involving points, lines, and planes in space. Prerequisite: DFTG 1405 (4:3-3)

DFTG 2419 Intermediate Computer-Aided Drafting
This is a continuation of practices and techniques used in basic computer-aided drafting emphasizing advanced dimensioning techniques, the development and use of prototype drawings, construction of pictorial drawings, construction of 3-dimensional drawings, interfacing 2-D and 3-D environments and extracting data. This course uses MicroStation software. Prerequisite: DFTG 1410 or department chair approval (4:3-3)

DFTG 2421 Topographic Drafting
This course focuses on the plotting of surveyor’s field notes, including drawing elevations, contour lines, plan and profiles, and laying out traverses. Prerequisite: DFTG 1405 or DFTG 1409 or department chair approval (4:3-3)

DFTG 2423 Pipe Drafting
This course is a study of pipe fittings, symbols, specifications and their applications to a piping process system, including the creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics. Prerequisites: DFTG 1405 and DFTG 1409 or department chair approval (4:3-3)

DFTG 2428 Architectural Drafting-Commercial
This course focuses on architectural drafting procedures, practices, governing codes, terms and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods. Prerequisites: DFTG 1405 or DFTG 1413, and DFTG 1409 or department chair approval (4:3-3)

DFTG 2431 Advanced Technologies in Architectural Design and Drafting
This course focuses on the use of architectural specific software to execute the elements required in designing standard architectural exhibits utilizing custom features to create walls, windows and specific design requirements for construction in residential/commercial and industrial architecture. Prerequisite: DFTG 1417 or department chair approval (4:3-3)

DFTG 2432 Advanced Computer-Aided Drafting
This course covers advanced techniques, including the use of a customized system, and presentation of advanced drawing applications, such as three-dimensional solids modeling and linking graphic entities to external non-graphic data. Prerequisite: DFTG 1409 or department chair approval (4:3-3)

DFTG 2435 Advanced Technologies in Mechanical Design and Drafting
This course will focus on the use of parametric-based software for mechanical design for advanced modeling and analysis. Prerequisite: DFTG 2402 or department chair approval (4:3-3)

DFTG 2436 Computer-Aided Drafting Programming
This course covers the use of programming language to enhance CAD software. Prerequisite: DFTG 1409 or department chair approval (4:3-3)

DFTG 2438 Final Project - Advanced Drafting
This is a drafting course in which students participate in a comprehensive project from conception to conclusion. Department chair approval required. Prerequisite: 16 credit hours of Engineering Design Graphics courses from the following group: ARCE 1452, DFTG 1417, DFTG 1441, DFTG 1495, DFTG 2402, DFTG 2407, DFTG 2408, DFTG 2421, DFTG 2423, DFTG 2428, DFTG 2431, DFTG 2435, DFTG 2457; eight of these credits must be earned at San Jacinto College. (4:3-3)
**DFTG 2440 Solid Modeling/Design**
This is a computer-aided modeling course that includes development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work. Prerequisite: DFTG 1409 or department chair approval (4:3-3)

**DFTG 2447 Advanced Technical Animation and Rendering**
This course focuses on advanced 3D modeling, rendering, and animation techniques using industry standard software. It emphasizes advanced use of camera settings, lighting, and surface to create detailed environments. Prerequisite: DFTG 1402 or department chair approval (4:3-3)

**DFTG 2457 Advanced Technologies in Pipe Design and Drafting**
This course focuses on advanced design and production techniques using specialized process plant-based design software. Prerequisite: DFTG 2423 or department chair approval (4:3-3)

**DITA 1400 Dietary Manager I**
This preparation for supervisory roles in food service departments emphasizes 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. Dietary Manager MSA (MDIET) students must enroll in FDNS 1168 concurrently. (4:4-0)

**DITA 1401 Dietary Manager II**
This course is a continuation of Dietary Manager I which emphasizes food service sanitation and safety, and 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. Program director approval required. Dietary Manager MSA (MDIET) students must enroll in FDNS 1169 concurrently. (4:4-0)

**DMSO 1210 Introduction to Sonography**
This is an introduction to the profession of sonography and the role of the sonographer. It emphasizes medical terminology, ethical/legal aspects, written and verbal communication, and professional issues relating to registry, accreditation, professional organizations and history of the profession. Prerequisites: acceptance into the ultrasound program (2:2-0)

**DMSO 1302 Basic Ultrasound Physics**
This course covers basic acoustical physics and acoustical waves in human tissue. This covers ultrasound transmission in soft tissues, attenuation of sound energy, parameters affecting sound transmission, and resolution of sound beams. Prerequisites: acceptance into the ultrasound program (3:3-1)

**DMSO 1342 Intermediate Ultrasound Physics**
This course is a continuation of Basic Ultrasound Physics. Includes interaction of ultrasound with tissues, mechanics of ultrasound production and display, various transducer designs and construction, quality assurance, bioeffects, and image artifacts. May introduce methods of Doppler flow analysis. Prerequisite: Departmental approval required. (3:3-1)

**DMSO 1351 Sonographic Sectional Anatomy**
This course covers sectional anatomy of the male and female body. Includes anatomical relationships of organs, vascular structures, and body planes and quadrants. (3:3-1)

**DMSO 1355 Sonographic Pathophysiology**
The course covers pathology and pathophysiology of the abdominal structures visualized with ultrasound. Includes abdomen, pelvis, and superficial structures. Prerequisites: DMSO 1260, 1210, 1302, 1441, 2405. (3:3-1)

**DMSO 1361 Clinical I - Diagnostic Medical Sonography**
This is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: DMSO 1260, 1210, 1302, 1441, 2405. (3:0-16)

**DMSO 1391 Special Topics in Diagnostic Medical Sonography Technician**
This course addresses recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course may be taken twice for credit. (3:3-1)

**DMSO 1441 Abdominopelvic Sonography**
This course covers normal anatomy and physiology of the abdominal and pelvic cavities as related to scanning techniques, transducer selection, and scanning protocols. Prerequisite: Departmental approval required. (4:3-3)

**DMSO 2243 Advanced Ultrasound Principles and Instrumentation**
This course covers theory and application of ultrasound principles. Includes advances in ultrasound technology. (2:2-1)

**DMSO 2245 Advanced Sonography Practices**
This course covers exploration of advanced sonographic procedures and emerging ultrasound applications. (2:2-0)

**DMSO 2342 Sonography of High Risk Obstetrics**
This course covers maternal disease and fetal abnormalities. Includes scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisites: DMSO 1260, 1210, 2405. (3:3-1)
DMSO 2353 Sonography of Superficial Structures
This course is a detailed study of normal and pathological superficial structures as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisite: Departmental approval required. (3:3-1)

DMSO 2357 Advanced Ultrasound Professionalism and Registry Review
This course covers sonographic professional principles and scope of practice including legal and ethical issues and department management procedures. Includes review and preparation. (3:3-1)

DMSO 2360 Clinical II - Diagnostic Medical Sonography
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: DMSO 1361, 1355, 1342, 2342. (3:0-18)

DMSO 2405 Sonography of Obstetrics/Gynecology
This course is a detailed study of the pelvis and obstetrics/gynecology as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisite: Departmental approval required. (4:3-3)

DNTA 1102 Communication and Behavior in the Dental Office
This course is a study of human interaction and communication in the dental office. Prerequisites: Reading level 6, Math level 6 (1:1-0)

DNTA 1167 Practicum - Dental Assisting/Assistant
This course is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: Reading level 6, Math level 6 (1:0-7)

DNTA 1245 Preventive Dentistry
This course includes the study of nutrition and preventable dental disease and community dental health. Prerequisites: Reading level 6, Math level 6 (2:2-1)

DNTA 1251 Dental Office Management
This course uses computers and/or manual systems to process dental information and interpret and practice learned dental office management skills. Prerequisites: Reading level 6, Math level 6 (2:2-1).

DNTA 1305 Dental Radiology
This course is an introduction to radiation physics, protection, and the operation of radiographic equipment. Includes instruction in exposure, processing and mounting of dental radiographs, and study of federal and state safety and standard practices. Prerequisites: Reading level 6, Math level 6 (3:2-3)

DNTA 1341 Dental Laboratory Procedures
This course covers how to perform various dental laboratory procedures such as producing final study casts and fabricating provisional restorations. Prerequisites: Reading level 6, Math level 6 (3:2-2)

DNTA 1349 Dental Radiology in the Clinic
This course covers the practical application of exposing, processing, and mounting diagnostically acceptable radiographs obtained by utilizing various radiographic techniques. Prerequisites: Reading level 6, Math level 6 (3:2-3)

DNTA 1401 Dental Materials
This course covers the composition, properties, procedures and safety standards related to dental materials. Prerequisites: Reading level 6, Math level 6 (4:3-2)

DNTA 1411 Dental Science
This course covers the fundamental anatomical systems with emphasis placed on head and neck anatomy. Topics include the embryology of the teeth along with basic dental terminology. Prerequisites: Reading level 6, Math level 6 (4:3-3)

DNTA 1415 Chairside Assisting
This course is a study of pre-clinical chairside assisting procedures, instrumentation, OSHA and other regulatory agencies' standards. Prerequisites: Reading level 6, Math level 6 (4:3-3)

DNTA 1447 Advanced Dental Science
This course is an advanced study of anatomical systems, pharmacology, oral pathology, and developmental abnormalities. Prerequisites: Reading level 6, Math level 6 (4:3-2)

DNTA 1453 Dental Assisting Applications
This course is an extended study of dental assisting techniques with emphasis on four-handed dentistry and utilization of armamentarium for general practice specialty procedures. Prerequisites: Reading level 6, Math level 6 (4:3-3)

DNTA 2230 Seminar for the Dental Assistant
This course covers the analysis of case studies during the clinical phase of practicum/clinical. Prerequisites: Reading level 6, Math level 6 (2:2-0)

DNTA 2267 Practicum - Dental Assisting/Assistant
This course is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: Reading level 6, Math level 6 (2:0-15)
**DRAM 1120 Theatre Practicum I**

This course is open to all students interested in the theatre. Credit is earned for acting, technical work, or other participation. Practicum in theatre with emphasis on technique and procedures with experience gained in play productions. Course may be taken a maximum of four times for credit. (1:0-6)

**DRAM 1121 Theatre Practicum II**

This course is open to all students interested in the theatre. Credit is earned for acting, technical work, or other participation. This is a practicum in theatre with emphasis on technique and procedures with experience gained in play productions. (1:0-6)

**DRAM 1161 Musical Theatre I**

This course is open to all students interested in musical theatre and offers credit for acting, technical work or other participation in a musical. (1:0-5)

**DRAM 1162 Musical Theatre II**

This course is open to all students interested in musical theatre and offers credit for acting, technical work or other participation in a musical. This course may be taken a maximum of four times. (1:0-5)

**DRAM 1310 Theatre**

This is an introduction to the basic practices, history, theories and styles of the theatre, and includes a survey of major fields of theatrical art. Elementary stage techniques are studied along with fundamental acting techniques. (3:3-0)

**DRAM 1322 Stage Movement**

This course covers principles, practices, and exercises in body techniques and stage movement; emphasis on character movement and body control. (3:3-0)

**DRAM 1330 Stagecraft I**

This is an introduction to the theory and practical applications 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. (3:3-0)

**DRAM 1341 Stage Makeup**

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**

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 work within a given costuming budget. (3:2-2)

**DRAM 1351 Acting I**

This is an introduction to the basic skills and techniques of acting, with character analysis and development. It includes characterization and lab work in scenes from great dramatic literature. Rehearsal will be scheduled as required. (3:3-0)

**DRAM 1352 Acting II**

This is a continuation and consolidation of the gains made in DRAM 1351. Rehearsal will be scheduled as required. (3:3-0)

**DRAM 2120 Theatre Practicum III**

This course is open to all students interested in theatre. Credit is earned for acting, technical work, or other participation. Practicum in theatre with emphasis on technique and procedures with experience gained in play productions. (1:0-6)

**DRAM 2121 Theatre Practicum IV**

This course is open to all students interested in the theatre. Credit is earned for acting, technical work, or other participation. Practicum in theatre with emphasis on technique and procedures with experience gained in play productions. (1:0-6)

**DRAM 2331 Stagecraft II**

This is an advanced study of the theory and practical applications 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. (3:3-0)

**DRAM 2336 Voice for the Theatre**

This course is an application of the performer’s use of the voice as a creative instrument of effective communication. It encourages an awareness of the need for vocal proficiency and employs techniques designed to improve the performer’s speaking abilities. Course may include the study of I.P.A. and stage dialects. Prerequisite: Reading level 6 (3:3-0)

**DRAM 2351 Acting III**

This course includes 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 regards to acting for the camera. A comparative study of stage acting vs. acting for the camera, using interdisciplinary approach of art, music, philosophy, and theater is included. Emphasis is also placed on methods of relaxation, communication, and the cybernetic approach to film/video acting. (3:3-2)

**DRAM 2366 Film Appreciation I**

This course includes a comparative study of the different genres of motion pictures, with an 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)

**DRAM 2367 Film Appreciation II**

This course places emphasis on the analysis of the visual and aural aspects of selected motion pictures, dramatic aspects of narrative films, and historical growth and sociological effects of film as an art. (3:2-2)
ECON 1301 Introduction to Economics
This course is a study of consumer problems of the individual and of the family in the American economy. Areas of study may include: money and credit management, saving and personal investment, estate planning, wills, buying food and clothing, home ownership or rental, transportation, insurance, taxes and consumer protection. It is designed to expose non-business majors to a broad range of economic issues and policies. It may not be taken for credit toward any degree plan for Business Administration, Accounting, Finance, Economics. Prerequisites: Reading level 6, Writing level 6 and Math level 6 (3:3-0)

ECON 2301 Principles of Macroeconomics
This course covers an analysis of the economy as a whole including measurement and determination of national income, inflation, and unemployment. Other topics include international trade, economic growth, business cycles, fiscal policy, and monetary policy. Prerequisites: Reading level 7, Writing level 7 and Math level 7 (3:3-0)

ECON 2302 Principles of Microeconomics
This is 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, Math level 7 (3:3-0)

ECON 2311 Economic Geography
This course is an analytical study of the historical development of economic distribution as it relates to social, cultural, political, and physical factors. It includes critical inquiry into the reasons for location of various types of economic activity, production, and marketing. It also includes critical inquiry into markets and people across time and spatial dimensions and the geographical influence on poverty, economic growth, and sustainability. Prerequisites: ECON 2301 and ECON 2302 or approval of department chair. (3:3-0)

EDUC 1300 Learning Framework
The purpose of EDUC 1300/PSYC 1300 is to enable you to develop effective academic behaviors for college success. The course includes a balance between the research and theory in the psychology of learning, cognition, and motivation and how to apply what you learn to becoming successful in a college setting. You will understand the factors that affect learning and how to apply what you learn to the development of successful learning strategies. You will use assessment instruments, such as learning inventories, to help you identify your own strengths and weaknesses as a strategic learner. You are ultimately expected to integrate and apply the learning skills discussed across your own academic courses and program and become an effective and efficient learner. As you develop these skills, you should be able to continually draw from the theoretical models and apply this to your courses and to your life. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

EDUC 1301 Introduction to the Teaching Profession
This is an enriched, integrated pre-service course and content experience that provides active recruitment and institutional support of students interested in a teaching career, especially in high need fields. It provides opportunities to participate in early field observations at all levels of P-12 schools with varied and diverse student populations. This course provides 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. The course will be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Student will complete 16 contact hours of field experience in P-12 classrooms. Prerequisites: Reading level 7 and Writing level 7 (3:3-1)

EDUC 2301 Introduction to Special Populations
This is an enriched, integrated pre-service course and content experience that provides an overview of schooling and classrooms from the perspectives of language, gender, socioeconomic status, ethnic and academic diversity, and equity with an emphasis on factors that facilitate learning. Students will be provided with opportunities to participate in early field observations of P-12 special populations. The course will be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Students will complete 16 contact hours of field experience with P-12 special populations. Prerequisites: Reading level 7 and Writing level 7 (3:3-1)

ECT 1307 Convergence Technologies
This course is a study of telecommunications convergence technologies including telephone, LAN, WAN, wireless, voice, video, and Internet protocol. Prerequisite: Reading level 4 (3:2-2)

ECT 1340 Telecommunications Transmission Media
This course introduces the fundamentals of telecommunications media, including installation, maintenance, and troubleshooting. Topics address media characteristics and connectorization. (3:2-2)

ECT 2337 Wireless Telephony Systems
This course covers principles of wireless/cellular telephony systems to include call processing, hand-off, site analysis, antenna radiation patterns, commonly used test/maintenance equipment and access protocol. Prerequisites: ITCC 1401 or ITNW 1325 (3:2-2)

ECT 2367 Practicum, (Field Experience) Electronic Technology/Technician
This course offers practical general training and experience in the workplace. The College, with the employer, develops 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. Prerequisite: CPMT 1345 or department chair approval (3:0-21)
ELECTRICIANSHIP

ELPT 1311 Basic Electrical Theory
This course covers the basic theory and practice of electrical circuits. It includes electrical calculations to solve DC and AC electrical circuits are included. (3:2-0)

ELPT 1315 Electrical Calculations I
This is an introductory study of electrical theory, code calculations, and interpretations applicable to becoming a master electrician. It emphasizes 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 1325 National Electric Code I
This is an introductory study of the National Electric Code (NEC) for those employed in the field requiring knowledge of the Code. Emphasis will be on wiring design, protection, methods, and materials; and equipment for general use, and basic calculations. (3:3-0)

ELPT 1345 Commercial Wiring
This course provides instructions in commercial wiring methods. It includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures. The National Electrical Code (NEC) is used to size branch circuits, feeders, service equipment, outlet and junction boxes, and conduit; and installation of lighting and utilization of equipment. Students 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
This is 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 Electronic Applications
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 supplies. Prerequisite: ELPT 1311 (3:2-2)

ELPT 1429 Residential Wiring
This course covers wiring methods used for single family and multi-family dwellings that includes load calculations, service entrance sizing, proper grounding techniques, and associated safety procedures. (3:2-2)

ELPT 1440 Master Electrician Exam Review I
This is an introductory study of electrical theory, code calculations, and interpretations applicable to becoming a master electrician. It emphasizes 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 1441 Motor Control
This is a study of operating principles dealing with solid-state and conventional controls along with their practical applications. It includes braking, jogging, plugging, safety wiring, ladder diagrams, relay logic, and timers. Prerequisite: ELPT 1311 or approval of department chair (4:3-3)
### ELPT 2215 Electrical Calculations II
This is a further study of mathematical applications used 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. It 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
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 Transformers and Motors
This course focuses on the operation of single- and three-phase motors and transformers. It includes transformer banking, power factor correction, and protective devices. Also included are lessons on 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 (3:3-1)

### ELPT 2319 Programmable Logic Controllers I
This course covers the fundamental concepts of programmable logic controllers, principles of operation, and numbering systems as applied to electrical controls. It includes history, terminology, typical applications, hardware and software, and incorporates lab and project activities that address operating, monitoring programming, troubleshooting, and repairs of PLC controlled lab trainers as well as actual industrial equipment. (3:2-2)

### ELPT 2325 National Electrical Code II
This course includes in-depth coverage of the National Electrical Code (NEC) for those employed in fields requiring knowledge of the Code, with an 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
This course covers 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 2339 Electrical Power Distribution
This is a study of design, operation, and technical details of modern power distribution systems including generating equipment, transmission lines, plant distribution, and protective devices. Includes calculations of fault current, system load analysis, rates, and power economics. Prerequisites: ELPT 1311, ELPT 2305 (3:3-1)

### ELPT 2343 Electrical System Design
This is a course in 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 2347 Electrical Testing and Maintenance
This course covers proper and safe use of electrical power equipment test devices and the interpretation of test results. Includes protective relay testing and calibration, direct current (DC) testing, insulation power factor testing, and medium voltage switchgear. Prerequisites: ELPT 1311, CETT 1325 (3:2-2)

### ELPT 2364 Practicum-Electrical and Power Transmission Installation/Installer, General
This course provides 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 paid or unpaid. The course may be repeated if topics and learning outcomes vary. Prerequisite: Approval of department chair (3:0-21)

### ELPT 2449 Industrial Automation
This is an 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)

### ELTN 1343 Electrical Troubleshooting
This course covers maintenance, operation, troubleshooting, and repair of circuits of various residential, commercial, and industrial electrical systems. Prerequisite: ELPT 2347 (3:2-2)

### EMSP 1160 Clinical-Emergency Medical Technician
This is 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. Prerequisite: EMSP 1501 and departmental approval. Orientation is required prior to the start of the course. Sixteen hours hospital clinical, 64 field hours. (1:0-5)

### EMSP 1191 Special Topics in Emergency Medical Technology/Technician
This course covers topics that address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. (1:0-2)
EMSP 1260 Clinical - Advanced Emergency Medical Technology
This is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by a clinical professional. Specific detailed learning objectives are developed for the course. Continuous enrollment may be required until these objectives are met. Prerequisites: EMSP 1338, 1355, 1356 and departmental approval. Orientation is required prior to the start of the course. Sixty-four hours clinical, 64 field hours. (2:0-8)

EMSP 1338 Introduction to Advanced Practice
This course covers fundamental elements associated with emergency medical services to include preparatory practices, pathophysiology, medication administration, and related topics. The curriculum is based on the National Emergency Medical Services Educational Standards for Advanced Emergency Medical Technician. Students must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisites or co-requisites: EMSP 1160, EMSP 1501 and departmental approval. Reading level 6, Writing level 6 and Math level 6. Thirty-two lecture and 32 laboratory hours. (3:2-2)

EMSP 1355 Trauma Management
This is a detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with traumatic injuries. The curriculum is based on the National Emergency Medical Services Educational Standards for Advanced Emergency Medical Technician. Students must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisites: EMSP 1160, 1501 and departmental approval. Reading level 6, Writing level 6, Math level 6. Thirty-two lecture and 32 laboratory hours. (3:2-2)

EMSP 1356 Patient Assessment and Airway Management
This is a detailed study of the knowledge and skills required to perform patient assessment, airway management, artificial ventilation. The curriculum is based on the National Emergency Medical Services Educational Standards for Advanced Emergency Medical Technician. Students must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisites: EMSP 1160, 1501 and departmental approval. Reading level 6, Writing level 6, Math level 6. Thirty-two lecture and 32 laboratory hours. (3:2-2)

EMSP 1371 Anatomy and Physiology for Emergency Care
This course is an introduction into normal anatomy and physiology of the human body with a particular emphasis and clinical correlation and application to emergency care. Included is an introduction to the pathophysiology of common injuries and illnesses found in the emergency care setting. NOTE: Completion of BOTH BIOL 2401 AND BIOL 2402 are acceptable substitutes for EMSP 1371. Prerequisites: Reading level 7, Writing level 7, and Math level 4. Forty-eight lecture hours. (3:3-0)

EMSP 1491 Special Topics in Emergency Medical Technology/Technician
This course includes topics that 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 curriculum is based on the National Emergency Medical Services Educational Standards. This course was designed to be repeated multiple times to improve student proficiency. Prerequisites: EMSP 2243, 2168 and departmental approval. Reading level 7, Writing level 7, Math level 7. Forty-eight lecture hours and 48 lab hours. (4:3-3)

EMSP 1501 Emergency Medical Technician
This course provides the preparation for certification as an Emergency Medical Technician (EMT). The curriculum is based on the National Emergency Medical Services Educational Standards. Students must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisites: Reading level 6, Writing level 6, Math level 4. Forty-eight hours lecture and 112 hours lab. (5:3-7)

EMSP 2160 Clinical - EMS Supervision
This course is 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 objectives are met. Prerequisites: EMSP 2243, 2168, 2359 and departmental approval. Orientation is required prior to the start of the course. Sixty-four field hours. (1:0-4)

EMSP 2161 Clinical - EMT Paramedic I
This is 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 objectives are met. Prerequisites: EMSP 2348, 2444 and departmental approval. Orientation is required prior to the start of the course. Sixty-four hours clinical. (1:0-4)

EMSP 2162 Clinical - EMT Paramedic II
This is 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 objectives are met. Prerequisites: EMSP 2330, 2344 and departmental approval. Orientation is required prior to the start of the course. Eighty hours of clinical. (1:0-5)
EMSP 2168 Practicum/Field Experience - Paramedic
This is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Direct supervision is provided by a health care professional. Practical/field experiences are unpaid external learning experiences. Specific detailed learning objectives are developed for the course. Continuous enrollment may be required until these are met. Prerequisite: EMSP 2243 or departmental approval. Orientation is required prior to the start of the course. One hundred forty-four field hours. (1:0-9)

EMSP 2243 Assessment Based Management
This course is a capstone experience covering comprehensive, assessment based patient care management. Includes specific care when dealing with pediatric, adult, geriatric, and special-needs patients. The curriculum is based on the National Emergency Medical Services Educational Standards for Paramedic. Students must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisites or co-requisites: EMSP 2434, 2330, 2168 and departmental approval. Reading level 7, Writing level 7 and Math level 7. Sixty-four laboratory hours. (2:0-4)

EMSP 2330 Special Populations
This is a detailed study of the knowledge and skills necessary to access and manage ill or injured patients in diverse populations to include neonatology, pediatrics, geriatrics, and other related topics. The curriculum is based on National Emergency Medical Services Educational Standards for Paramedic. Students must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisites: EMSP 2348, 2444 and departmental approval. Reading level 7, Writing level 7, and Math level 7. Thirty-two lecture and 48 laboratory hours, including Pediatric Advanced Life Support (PALS) Provider course. (3:2-3)

EMSP 2348 Emergency Pharmacology
This is a course covering utilization of medications in treating emergency situations. The course is designed to complement EMSP 2444 Cardiology, EMSP 2330 Special Populations, and EMSP 2434 Medical Emergencies courses. The curriculum is based on the National Emergency Medical Services Educational Standards for Paramedic. Students must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisites: EMSP 1338, 1355, 1356 and departmental approval. Reading level 7, Writing level 7, and Math level 7. Forty-eight lecture hours (3:3-0)

EMSP 2359 EMS Supervision/Management
This course covers instruction, literary review, group discussion, and case study on topics pertinent to the Emergency Medical Service (EMS) field supervisor or manager. Identification and interpretation of laws and regulations affecting EMS operations; demonstration of principles of leadership and supervision; discussion and application of strategies used in financial management; explanation and exhibition of principles of personnel management; and development of strategies for evaluating and improving EMS operations. Prerequisites: EMSP 2243, 2168 and departmental approval. Reading level 7, Writing level 7, and Math level 7. Forth-eight lecture hours. (3:3-0)

EMSP 2434 Medical Emergencies
This is a detailed study of the knowledge and skills in the assessment and management of patients with medical emergencies, including medical overview, neurology, gastroenterology, immunology, pulmonology, urology, hematology, endocrinology, toxicology, and other related topics. The curriculum is based on the National Emergency Medical Services Educational Standards for Paramedic. Students must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisites: EMSP 2348, 2444 and departmental approval. Reading level 7, Writing level 7, Math level 7. Sixty-four lecture and 16 laboratory hours. (4:4-1)

EMSP 2444 Cardiology
This course covers assessment and management of patients with cardiac emergencies. Includes single and multi-lead ECG interpretation. The curriculum is based on National Emergency Medical Services Educational Standards for Paramedic. Students must meet the expected outcomes and terminal objectives of the class. Continuous enrollment may be required until these are met. Prerequisites: EMSP 2348 and departmental approval. Reading level 7, Writing level 7, and Math level 7. Forty-eight lecture and 64 laboratory hours including Advanced Cardiovascular Life Support (ACLS) Provider course. (4:3-4)

ENER 1270 Employee Success in Energy Industry
This course is a study of successful employee characteristics and employer expectations in the energy industry. Topics include benefits, career management, e-communications, and personal financial management. It also addresses values, inclusion, and community/environmental roles. Prerequisites: Reading level 6, Writing level 6, Math level 6 (2:2-0)

ENER 1330 Basic Mechanical Skills for Energy
This course covers basic mechanical skills using hand and power tools in an industrial environment. Topics include tool use and maintenance, lubrication, measuring, threads and fasteners, bench works, basic mechanical drawings, and basic shop calculations (English and metric). Also, addresses rigging procedures to include chain falls, jacks, cable, fulcrum, port-a-power, and come-alongs. (3:2-2)

ENER 1350 Overview of Energy Industry
This course is an introduction to the major sectors of the energy industry including fossil fuels, alternative energy systems, power generation facilities, and electrical transmission. It includes a comparison of energy industry careers. (3:3-0)

ENGL 0107 Developmental Writing
This course is a study of the development of fundamental writing skills such as idea generation, organization, style, utilization of standard English, and revision. (1:0.5-0.5)
ENGL 0306 Beginning Writing Skills
This course is designed for systematic study and review of applicable 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: Reading level 7 and Writing level 7 (3:3-0)

ENGL 0307 Preparation for College English
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 score within defined range (3:3-0)

ENGL 0308 Writing and Grammar: English for Speakers of Other Languages
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 score within defined range (3:3-1)

ENGL 1111 Creative Writing Workshop
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
This course provides an intensive study of and practice in writing processes, from invention and researching to drafting, revising, and editing, both individually and collaboratively. Emphasis is on effective rhetorical choices, including audience, purpose, arrangement, and style. Focus is on writing the academic essay as a vehicle for learning, communicating, and critical analysis. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

ENGL 1302 Composition II
This course provides an intensive study of and practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis is on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual, and multimedia texts; systematic evaluation, synthesis, and documentation of information sources; and critical thinking about evidence and conclusions. Prerequisite: ENGL 1301 or equivalent (3:3-0)

ENGL 2307 Creative Writing
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. Students 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 Creating Writing Studies
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 ENGL 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 credit. Students 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: ENGL 1301 (3:3-0)

ENGL 2311 Technical Report Writing
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 British Literature I
This is a survey of the development of British literature from the Anglo-Saxon period to the eighteenth century. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1302 (3:3-0)
ENGL 2323 British Literature II
This is a survey of the development of British literature from the Romantic period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1302 (3:3-0)

ENGL 2327 American Literature I
This is a survey of American literature from the period of exploration and settlement through the Civil War. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. Prerequisite: ENGL 1302 (3:3-0)

ENGL 2328 American Literature II
This is a survey of American literature from the Civil War to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. Prerequisite: ENGL 1302 (3:3-0)

ENGL 2332 World Literature I
This is a survey of world literature from the ancient world through the sixteenth century. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1302 (3:3-0)

ENGL 2333 World Literature II
This is a survey of world literature from the seventeenth century to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1302 (3:3-0)

ENGL 2341 Literature and Film
This course covers the study of one or more literary genres including, but not limited to, fiction, drama and film, are included in this course. The course offers an analytical approach to both literature and film. Through various methods, students will learn conceptual frameworks and vocabulary for understanding and explaining how films and literature enhance our perception of society and inform our awareness and judgment. The course strives to help students critically approach culture by analyzing literary works. Prerequisite: ENGL 1302 (3:3-0)

ENGL 2351 Mexican-American Literature
This is a survey course of Mexican-American/Chicano literature including fiction, non-fiction, poetry, and drama. Prerequisite: ENGL 1302 (3:3-0)

ENGL 2370 Selected Studies in Literature
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)

ENGL 2389 Academic Cooperative in Composition
This is an instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of English language and literature. Prerequisite or co-requisite: ENGL 1302, a professor's written recommendation, and a writing sample. Reading level 7, Writing level 7 (3:1-8)

ENGR 1201 Introduction to Engineering
This is an introduction to the engineering profession with emphasis on technical communication and team-based engineering design. Note: Some mechanical engineering programs will accept the course ENGR 1201 for transfer credit and as applicable to the engineering major, while others will accept the course for transfer credit only. The student is advised to check with the school to which he or she wants to transfer for specific applicability of this course to the engineering major. Prerequisite: MATH 1314 (2:2-0)

ENGR 2301 Engineering Mechanics I - Statics
This course is a study of basic theory of engineering mechanics, using calculus, involving the description of forces, moments, and couples acting on stationary engineering structures; equilibrium in two and three dimensions; free-body diagrams; friction; centroids; centers of gravity; and moments of inertia. Prerequisite: PHYS 2425. Co-requisite: MATH 2414 (3:3-0)

ENGR 2302 Engineering Mechanics II - Dynamics
This course is a study of basic theory of engineering mechanics, using calculus, involving the motion of particles, rigid bodies, and systems of particles; Newton’s Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems. Prerequisite: ENGR 2301 (3:3-0)

ENGR 2304 Programming for Engineers
This is 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)
ENVR 1401 Environmental Science I: Principles of Environmental Systems
This overview of environmental and urban systems and current global concerns explores scientific, economic, social, and political solutions to environmental problems with emphasis on ethical issues and sustainability. Field trips are required. Prerequisites: Reading level 7, Writing level 7, Math level 7 (4:3-3)

ENVR 1402 Environmental Science II: Chemicals in the Environment
This is an overview of chemicals and containments in the environment, including description of environmental media, types of contaminants and 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)

EPCT 1301 Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics
This course covers minimum certification requirements in the Code of Federal Regulations (CFR) for a hazardous waste site worker as found in 29 CFR 1910.120 and 40 CFR 264.16. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-1)

EPCT 1305 Environmental Regulations Overview
This is an introduction to the history of the environmental movement, including basic requirements for compliance with the environmental regulations. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)

EPCT 1307 Introduction to Environmental Safety and Health
This is a historical overview of environmental safety and health. The emphasis is on the use of occupational safety and health codes, and development of knowledge and skills to reinforce the attitudes and behaviors required for safe and environmentally sound work habits. It covers safety, health, and environmental issues in the performance of all jobs, tasks, and regulatory compliance issues. (3:3-0)

EPCT 1311 Introduction to Environmental Science
This is an overview of environmental science and current global concerns, and a brief history of environmental ethics, resource use, and conservation. Includes discussion of fundamental principles of resource economics and environmental health. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)

EPCT 1313 Contingency Planning
This is 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 plan. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)

EPCT 1341 Principles of Industrial Hygiene
This course covers concepts in threshold limits, dose response, and general recognition of occupational hazards, including sampling statistics, calibration, and equipment use. Includes a study of the control of occupational hazards and sample collection and evaluation methods. Prerequisites: CHEM 1411 and MATH 1314 or MATH 1333, Reading level 6, Writing level 6, Math level 6 (3:3-0)

EPCT 1349 Environmental Regulations Interpretation & Applications
This course is an in-depth study of the major federal and state environmental regulations. Prerequisite: INTC 1348 (3:3-0)

EPCT 2333 Environmental Toxicology
This is a review of the research determining the systematic health effects of exposures to chemical. Includes discussion of risk factors, routes of entry, control measures, and acute and chronic effects. Prerequisites: CHEM 1411 and MATH 1314 or MATH 1333, Reading level 6, Writing level 6, Math level 6 (3:3-0)

ESOL 0110 NCBO for ESOL
This course is a computer based, student self-paced practice to develop reading, grammar, writing, listening and/or speaking skills for non-native speakers and to prepare students to function in educational, vocational and/or personal English language contexts. This course may be repeated to improve proficiency. (1:1-0)

ESOL 0362 Intermediate ESOL Oral Communication
This course develops listening and speaking skills in speakers of languages other than English and prepares them to function in educational, vocational and/or personal English-speaking contexts. Prerequisite: ESOL 0311 or meet the required score on a standardized test of English language proficiency. This is an intermediate-level course. (3:3-1)

ESOL 0363 Advanced ESOL Oral Communication
This course develops listening and speaking skills in speakers of language other than English and prepares them to function in educational, vocational and/or personal English-speaking contexts. Prerequisite: ESOL 0362 Intermediate Oral Communication for Non-Native Speakers or meet the required score on a standardized test of English language proficiency. This is an advanced-level course. (3:3-1)

ESOL 0372 Intermediate Reading and Writing for Non-Native Speakers
This course focuses on strategies and techniques of writing and composition and develops reading proficiency, vocabulary, and writing and grammar skills for academic, career, or personal purposes in speakers of languages other than English and prepares them to function in a multicultural and multilingual society. Prerequisite: ESOL 0351 and 0321 or meet the required score on a standardized test of English language proficiency. This is an intermediate-level course. (3:3-1)
ESOL 0373 Advanced Reading and Writing for Non-Native Speakers
This course focuses on strategies and techniques of reading and composition and develops reading proficiency, vocabulary, and writing and grammar skills for academic, career, or personal purposes in languages other than English in order to prepare them to function in a multicultural and multilingual society. Prerequisite: ESOL 0372 or meet the required score on a standardized test of English language proficiency. This is an advanced-level course. (3:3-1)

ESOL 0382 Intermediate Grammar for Non-Native Speakers
This course focuses on Standard English grammar usage for academic purposes. Open only to non-native speakers. Prerequisite: ESOL 0331 or meet the required score on standardized test of English language proficiency. This is an intermediate-level course. (3:3-1)

ESOL 0383 Advanced Grammar for Non-Native Speakers
This course focuses on Standard English grammar usage for academic purposes. Open only to non-native speakers. Prerequisite: ESOL 0332 or 0382 or minimum score on a standardized test of English language proficiency. This is an advanced-level course. (3:3-1)

ETWR 1302 Introduction to Technical Writing
This course introduces the principles, techniques, and skills needed for scientific, technical, and business writing. This course is designed for technical students. Prerequisite: Reading level 4 (3:3-0)

ETWR 2305 Intermediate Technical Report Writing
This course focuses on essential phases of developing effective technical process documents. Emphasizing the roles of those involved in developing documentation reports, the course also includes practice in developing the reporting deliverables needed for complete and successful description of processes. This course is designed for technical students. Prerequisite: Reading level 6, Writing level 6 (3:3-0)

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FCEL 1405 Fuel Cell and Alter/Renew Energy
This course covers types and applications of alternative/renewable energy sources and emphasizes fuel cell applications and processes, reformation of fossil fuels, heat transfer, chemical reaction, power conditioning, combined heat and power, and distributed generation systems. Prerequisites or co-requisites: CETT 1303, and Reading level 4 (4:3-3)

FDNS 1168 Practicum - Dietetics/Dietitian (RD)
This course provides 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 paid or unpaid. Program director approval required. Dietary Manager MSA (MDIET) students must enroll in DITA 1401 concurrently. (1:0-10)

FDNS 1169 Practicum-Dietetics/Dietitian (RD)
This course provides practical, general workplace training supported by an individualized learning plan developed by employer, the College and 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. Program director approval required. Dietary Manager MSA (MDIET) students must enroll in DITA 1401 concurrently. (1:0-10)

FDNS 1309 Nutrition in the Community
This is a study of the nutritional status of populations at the national, state, and local community levels. It includes socioeconomic cultural and psychological influences on eating behavior, national and state health objectives, marketing strategies for objective implementation, and community nutrition program serving risk-group populations. Basic teaching/counseling methods for the nutrition education of small groups and individual clients/patients is also covered. (3:3-0)

FIRS 1301 Firefighter Certification I
This is one in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP)*** 32 lecture hours, 48 hours of skills development. Firefighter Training Academy. Prerequisite: Reading level 6 (3:2-3)

FIRS 1313 Firefighter Certification III
This is one in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP)*** 48 lecture hours, 16 hours of skills development. Firefighter Training Academy. Prerequisite: Reading level 6 (3:3-1)

FIRS 1319 Firefighter Certification IV
This is one in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP)*** 32 lecture hours, 32 hours of skills development. Firefighter Training Academy. Prerequisite: Reading level 6 (3:2-2)
FIRS 1329 Firefighter Certification VI
This is one in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP)**3 48 lecture hours, 16 hours of skills development. Firefighter Training Academy. Prerequisite: Reading level 6 (3:3-1)

FIRS 1407 Firefighter Certification II
This is one in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP)**3 32 lecture hours, 80 hours of skills development. Firefighter Training Academy. Prerequisite: Reading level 6 (4:2-5)

FIRS 1423 Firefighter Certification V
This is one in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP)**3 48 lecture hours. (3:3-0)

FIRS 1433 Firefighter Certification VII
This is one in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP)**3 32 lecture hours, 80 hours of skills development. Firefighter Training Academy. Prerequisite: Reading level 6 (4:2-5)

FIRT 1303 Fire and Arson Investigation I
This is an in-depth study of basic fire and arson investigation practices, with an emphasis on fire behavior principles related to fire cause and origin determination. This includes 48 lecture hours and 16 hours of skills development. (3:3-1)

FIRT 1309 Fire Administration I
This is an introduction to the organization and management of a fire department and the relationship of government agencies to the fire service, with an emphasis on fire service leadership from the perspective of the company officer. It includes 48 lecture hours. (3:3-0)

FIRT 1315 Hazardous Materials I
This is a 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. It is the equivalent to Hazardous Materials Operations Level Training, and includes 48 lecture hours, and 16 hours of skills development. (3:3-1)

FIRT 1319 Firefighter Health and Safety
This is a 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. It includes 48 lecture hours. (3:3-0)

FIRT 1327 Building Construction for the Fire Service
This course covers the exploration of building construction and design related to fire spread suppression in various structures, and 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. It includes 48 lecture hours. (3:3-0)

FIRT 1338 Fire Protection Systems
This is a study of fire detection, alarm, and extinguishing systems and includes 48 lecture hours. (3:3-0)

FIRT 1345 Hazardous Materials II
This is an in-depth study of mitigation practices and techniques to effectively control hazardous materials spills and leaks. It is the equivalent to Hazardous Materials Technician Level Training, and includes 48 lecture hours, and 16 hours of skills development. (3:3-1)

FIRT 1349 Fire Administration II
This is an 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. It includes 48 lecture hours. Prerequisite: FIRT 1309 (3:3-0)

FIRT 1370 Technical Rope Rescue I
This is 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 Technical Rescuer-Level I level. The content of this course meets and/or exceeds the job performance requirements specified in National Fire Protection Association 1006- Standard for Technical Rescuer Professional Qualifications, 2008 Edition including the specialty areas of rope rescue and confined space rescue. This course may be repeated in order to maintain student skill proficiency. (3:2-3)
FIRT 1408 Fire Inspector I
This course is one in a series of three courses required for Fire Inspector certification. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Inspector I. **THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION** (4:3-3)

FIRT 1440 Fire Inspector II
This course is one in a series of three courses required for Fire Inspector certification. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Inspector II and Plan Examiner I. **THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION** (4:3-3)

FIRT 2305 Fire Instructor I
This course prepares fire and emergency services personnel to deliver instruction from a prepared lesson plan, including the use of instructional aids and evaluation instruments to meet the Texas Commission on Fire Protection requirements for Fire Instructor I certification. It includes 48 lecture hours (3:3-0)

FIRT 2309 Firefighting Strategies and Tactics I
This course covers 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. It includes 48 lecture hours (3:3-0)

FIRT 2331 Firefighting Strategies and Tactics II
This is a continuation of Firefighting Strategies and Tactics I with an emphasis on use of incident command in large-scale command problems and other specialized fire problems. It includes 48 lecture hours. Prerequisite: FIRT 1311 (3:3-0)

FIRT 2333 Fire and Arson Investigation II
This is a 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
This is a 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. It includes 48 lecture hours and 16 hours of skills development. (3:3-1)

FIRT 2351 Company Fire Officer
This is a capstone course covering fire ground operations and supervisory practices. It includes performance evaluation of incident commander, safety officer, public information officer, and shift supervisor duties and 48 lecture hours. (3:3-0)

FIRT 2370 Technical Rope Rescue II
This is 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 Technical Rescuer-Level I level. The content of this course meets and/or exceeds the job performance requirements specified in National Fire Protection Association 1006-Standard for Technical Rescue Professional Qualifications, 2008 Edition including the specialty areas of rope rescue and confined space rescue. This course may be repeated in order to maintain student skill proficiency. Prerequisite: FIRT 1370 (3:2-3)

FMLD 1353 Marriage and Family Studies
This course explores 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
This course is 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)

FREN 1411 Beginning French I
This course is basic French language skills in listening, speaking, reading, and writing within a cultural framework. Students will acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the beginner level. Prerequisite: Reading level 6 (4:3-2)

FREN 1412 Beginning French II
This course is a continued development of basic French language skills in listening, speaking, reading, and writing within a cultural framework. Students acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the high beginner to low intermediate level. Prerequisite: FREN 1411 (4:3-2)

FREN 2311 Intermediate French I
This course is designed to give the student who has completed FREN 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
This course is a continuation of FREN 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)

GAME 1303 Introduction to Game Design and Development
This course is an introduction to electronic game development and game development careers and includes an examination of history and philosophy of games, the game production process, employee factors for success in the field, and current issues and practices in the game development industry. The course includes designing and implementing simple computer games. (3:2-2)

GAME 1304 Level Design
This course is an introduction to the tools and concepts used to create levels for games and simulations which incorporates level design, architecture theory, concepts of critical path and flow, balancing, play testing, and storytelling, and includes utilization of tools from industry titles. (3:2-2)

GAME 1343 Game and Simulation Programming I
This course covers game and simulation programming. It includes advanced pointer manipulation techniques and pointer applications, points and vectors, sound, and graphics. Prerequisite: ITSE 1307 or COSC 1337 or GAME 1303 or department chair approval (3:2-2)

GAME 1353 Multi-User Game Programming I
This course covers network topologies, architecture and protocols, and communication in game and simulation programming. It introduces sockets programming utilizing TCP and UDP protocols in a high-level language and focuses on blocking and asynchronous modes. (3:2-2)

GAME 2332 Project Development I
This course includes skill development in an original modification based on a current game engine. It includes management of version control; development of project timelines; integration of sound, models, and animation; production of demos; and creation of original levels, characters, and content for a real-time multiplayer game. It applies skills learned in previous classes in a simulated real-world design team experience. Prerequisite: GAME 1304 or department chair approval (3:2-2)

GAME 2341 Game Scripting
This course covers scripting languages with emphasis on game concepts and simulations. (3:2-2)

GAME 2344 DirectX Programming
This course covers the exploration of the advanced suite of multimedia application programming interfaces (API) built into the Microsoft Windows operating system. Prerequisites: Math level 6 and (ITSE 2331 or COSC 2336) or department chair approval (3:2-2)

GAME 2359 Game & Simulation Group Project
This course focuses on the creation of a game and/or simulation project utilizing a team approach. It includes the integration of design, art, audio, programming, quality assurance. Prerequisite: GAME 2332 or department chair approval (3:2-2)

GEOG 1301 Physical Geography
This course includes a study of climate, vegetation, soils, and landforms from a location 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. (GEOG 1301 does not satisfy the geography elementary education majors. Check with the Counseling Center.) Prerequisite: Reading level 6 (3:3-0)

GEOG 1302 Cultural Geography
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. Interactions between the natural environment, geopolitics, urban geography, demographics, and economic geography are stressed. Global themes may include the impact of world population trends, environmental problems, trade and economic development, interactions between ethnic groups, and geopolitical change in the post-Cold War period. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

GEOG 1303 World Regional Geography
This course is a study of major world regions with emphasis on prevailing conditions and developments, including emerging conditions and trends, and the awareness of diversity of ideas and practices found in those regions. Course content may include one or more regions. Prerequisites: Reading level 6, Writing level 6 (3:3-0)

GEOL 1401 Earth Sciences I: Introduction to Earth Sciences
This is an introductory course to provide a survey of astronomy, geology, oceanography, and meteorology for non-science majors. Prerequisites: Reading level 7, Writing level 7, Math level 6 (4:3-3)

GEOL 1403 Physical Geology
This is an introduction to the scope of geology, including the study of Earth's composition, structure, and internal and external processes, such as volcanic activity, earthquakes, tsunamis, and plate tectonics. Includes the geologic history of the earth and the evolution of life. Field trip(s) may be required. Prerequisite: Reading level 7 (4:3-3)
**Course Descriptions**

**GEOL 1404 Historical Geology**
This is the study of Earth, its origin, and the processes and events that shaped it. This course includes the geologic history of the earth and the evolution of life. Field trip(s) may be required. Prerequisites: GEOL 1403, Reading level 7 (4:3-3)

**GEOL 1405 Environmental Geology**
This is an overview of the interrelationships between humans and the environment, using regional examples and human land use. Encompasses geologic factors in urban and regional land use planning. Field trip(s) are required. Prerequisites: GEOL 1403 or ENVR 1401, Reading level 7 (4:3-3)

**GEOL 1447 Meteorology**
This course is a survey in meteorology and related sciences, intended for both science and non-science majors. The course covers a broad range of topics within the atmospheric sciences at an introductory level and includes laboratory activities. It will provide the student with a general understanding of the Earth’s atmosphere and its behavior. Course objectives include being able to identify and explain observed weather phenomena, being able to describe the structure, composition, and dynamics of the atmosphere, being able to describe the reasons our atmosphere is different from atmospheres of other planets and how our atmosphere has changed and can change. This course should provide a deeper appreciation of the forces acting and motions occurring in the atmosphere to produce various weather and climate conditions. Prerequisites: MATH 1314, Reading level 7, Writing level 7, and Math level 9 (4:3-3)

**GRPH 2309 Electronic Pre-Press I**
This course focuses on 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. Prerequisite: ARTC 2347 or ARTS 2314 or approval of department chair (3:2-4)

**GOVT 2304 Introduction to Political Science**
This course is an introductory survey of the discipline of political science focusing on the scope, and methods of the field and the substantive topics in the discipline including the theoretical foundations of politics, political interaction, political institutions and how political systems function. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

**GOVT 2305 Federal Government (Federal Constitution and Topics)**
This course is an introductory survey of the United States political system. Topics include origin and development of the U.S. Constitution; structure and powers of the national government including the legislative, executive, and judicial branches; federalism; political participation; the national election process; public policy; civil rights and civil liberties. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

**GOVT 2306 Texas Government (Texas Constitution and Topics)**
This course is an introductory survey of the Texas political system. Topics include origin and development of the Texas Constitution; structure and powers of state and local government; federalism and inter-governmental relations; political participation; the election process; public policy; and the political culture of Texas. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

**GOVT 2311 Mexican-American Politics**
This course is a study of Mexican-American/Chicano - a politics within the American political experience. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

**GOVT 2389 Academic Cooperative**
This is an instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual student will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena. Prerequisites: Eight hours of geology; Reading level 7, Writing level 7, Math level 7 (3:1-8)

**GERM 1411 Beginning German I**
This course is basic German language skills in listening, speaking, reading, and writing within a cultural framework. Students will acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the beginner level. Prerequisite: Reading level 6 (4:3-2)

**GERM 1412 Beginning German II**
This course is a continued development of basic German language skills in listening, speaking, reading, and writing within a cultural framework. Students acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the high beginner to low intermediate level. Prerequisite: GERM 1411 (4:3-2)

**GERM 2311 Intermediate German I**
This course is designed to give the student who has completed GERM 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**
This course is a continuation of GERM 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: GERM 2311 (3:3-0)
GRPH 2370 Electronic Pre-Press II
This is a continuation of electronic pre-press I, with continued exploration of computer file preparation, including use of Postscript, rip raster image processing, trapping, color separation, and resolutions. Emphasis will be on individual progress. Prerequisite: GRPH 2309 or approval of department chair (3:2-4)

GUST 0105 College Student Success
This course covers psychology of learning and success, and examines factors that underlie learning, success, and personal development in higher education. This course also emphasizes student responsibility and techniques in behavior modification. Topics covered include information processing, memory, strategic learning, self-assessment and regulation, self-management, goal setting and commitment, motivation, educational and career planning, decision making, networking, emotional intelligence, and learning styles. Techniques of study such as time management, listening and note taking, text marking, library and research skills, preparing for examinations, and utilizing learning resources are covered. It includes courses in college orientation and developments of students’ academic skills that apply to all disciplines. Prerequisite: Reading level 2, Writing level 4, and Math level 4 (1:1-0)

GUST 0305 College Student Success
This course covers psychology of learning and success, and examines factors that underlie learning, success, and personal development in higher education. This course also emphasizes student responsibility and techniques in behavior modification. Topics covered include information processing, memory, strategic learning, self-assessment and regulation, self-management, goal setting and commitment, motivation, educational and career planning, decision making, networking, emotional intelligence, and learning styles. Techniques of study such as time management, listening and note taking, text marking, library and research skills, preparing for examinations, and utilizing learning resources are covered. It includes courses in college orientation and developments of students’ academic skills that apply to all disciplines. Prerequisite: Reading level 2, Writing level 4, and Math level 4 (3:3-0)

HART 1356 EPA Recovery Certification Preparation
This course covers certification training for HVAC refrigerant recovery and recycling. Instruction will provide a review of EPA guidelines for refrigerant recovery and recycling during the installation, service, and repair of all HVAC and refrigeration systems. (3:3-0)

HART 1401 Basic Electricity for HVAC
This course focuses on 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
This course is an introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, and refrigeration components and safety. (4:3-3)

HART 1441 Residential Air Conditioning
This is a study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems. Prerequisites: HART 1401 and HART 1407 or department chair approval (4:3-3)

HART 1445 Gas and Electrical Heating
This is a study of the procedures and principles used in servicing heating systems including gas-fired furnaces and electric heating systems. Prerequisites or co-requisites: HART 1401 and HART 1407 or department chair approval (4:3-3)

HART 2301 Air Conditioning and Refrigeration Codes
This course focuses on HVAC standards and concepts, with emphasis on understanding and documenting the codes and regulations required for a state mechanical contractors license and compliance with local codes. Prerequisite: HART 1441 or department chair approval (3:3-0)

HART 2302 Commercial Air Conditioning System Design
This is an advanced study in essential elements of commercial air conditioning contracting, including duct systems design and/or material takeoff, weight estimating, equipment selection, using manufacturer’s catalog data, job cost estimating, scheduling preparation of shop drawings, and submittals. Prerequisites: HART 2345 and HART 2441 or department chair approval (3:3-0)

HART 2334 Advanced A/C Controls
This course focuses on the theory and use 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
This is a study of components, accessories, applications, and installation of air conditioning systems above a 25 ton capacity. Prerequisites: HART 2441 and HART 2431 or department chair approval (3:3-0)

HART 2345 Residential A/C System Design
Students study the properties of air and results of cooling, heating, humidifying or dehumidifying. They also learn to make heat gain or heat loss calculations necessary for equipment selection and balancing air systems. Prerequisites: HART 1441 and HART 1445 or department chair approval (3:3-0)
**HIST 2313 History of England I**

This course offers practical general workplace training through individualized learning plans developed by the employer, the College, and the 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 2368 Practicum (or Field Experience) - HVAC/R Technology/Technician**

This course offers practical general workplace training through individualized learning plans developed by the employer, the College, and the 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 2441 Commercial Air Conditioning**

This is a survey of the social, political, economic, cultural, and intellectual history of England from prehistory to 1688. Prerequisites: HART 1441, HART 1401 or department chair approval (4:3-3)

**HART 2442 Commercial Refrigeration**

This is a survey of the social, political, economic, cultural, and intellectual history of England from prehistory to 1688. Prerequisites: HART 1441, HART 1401 or department chair approval (4:3-3)

**HART 2444 Heat Pumps**

This is a survey of the social, political, economic, cultural, and intellectual history of England from prehistory to 1688. Prerequisites: HART 1441, HART 1401 or department chair approval (4:3-3)

**HIST 2301 United States History I**

This is a survey of the social, political, economic, cultural, and intellectual history of the United States from the pre-Columbian era to the Civil War/Reconstruction period. United States History I includes the study of pre-Columbian, colonial, revolutionary, early national, slavery and sectionalism, and the Civil War/Reconstruction eras. Themes that may be addressed in United States History I include: American settlement and diversity, American culture, religion, civil, and human rights, technological change, economic change, immigration and migration, and creation of the federal government. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

**HIST 2302 United States History II**

This is a survey of the social, political, economic, cultural, and intellectual history of the United States from the Civil War/Reconstruction era to the present. United States History II examines industrialization, immigration, world wars, the Great Depression, Cold War and post-Cold War eras. Themes that may be addressed in United States History II include: American culture, religion, civil and human rights, technological change, economic change, immigration and migration, urbanization and suburbanization, the expansion of the federal government, and the study of U.S. foreign policy. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

**HECO 1322 Nutrition and Diet Therapy**

This course offers practical general workplace training through individualized learning plans developed by the employer, the College, and the 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)

**HIST 2301 United States History I**

This is a survey of the social, political, economic, cultural, and intellectual history of the United States from the pre-Columbian era to the Civil War/Reconstruction period. United States History I includes the study of pre-Columbian, colonial, revolutionary, early national, slavery and sectionalism, and the Civil War/Reconstruction eras. Themes that may be addressed in United States History I include: American settlement and diversity, American culture, religion, civil, and human rights, technological change, economic change, immigration and migration, and creation of the federal government. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

**HIST 2302 United States History II**

This is a survey of the social, political, economic, cultural, and intellectual history of the United States from the Civil War/Reconstruction era to the present. United States History II examines industrialization, immigration, world wars, the Great Depression, Cold War and post-Cold War eras. Themes that may be addressed in United States History II include: American culture, religion, civil and human rights, technological change, economic change, immigration and migration, urbanization and suburbanization, the expansion of the federal government, and the study of U.S. foreign policy. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

**HIST 2311 Western Civilization I**

This is a survey of the social, political, economic, cultural, religious, and intellectual history of Europe and the Mediterranean world from human origins to the 17th century. Themes that should be addressed in Western Civilization I include the cultural legacies of Mesopotamia, Egypt, Greece, Rome, Byzantium, Islamic civilizations, and Europe through the Middle Ages, Renaissance, and Reforms. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

**HIST 2312 Western Civilization II**

This is a survey of the social, political, economic, cultural, religious, and intellectual history of Europe and the Mediterranean world from the 17th century to the modern era. Themes that should be addressed in Western Civilization II include absolutism and constitutionalism, growth of nation states, the Enlightenment, revolutions, classical liberalism, industrialization, imperialism, global conflict, the Cold War, and globalism. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

**HIST 2313 History of England I**

This is a survey of the social, political, economic, military, cultural, and intellectual development of England from prehistory to 1688. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)
**HIST 2314 History of England II**
This is a survey of the political, social, economic, military, cultural, and intellectual development of England from 1688 to the present. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

**HIST 2321 World Civilization I**
This is a survey of the social, political, economic, cultural, religious, and intellectual history of the world from the 15th century. The course examines major cultural regions of the world in Africa, the Americas, Asia, Europe, and Oceania and their global interactions over time. Themes include the emergence of early societies, the rise of civilizations, the development of political and legal systems, religion and philosophy, economic systems, and trans-regional networks of exchange. The course emphasizes the development, interaction, and impact of global exchange. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

**HIST 2322 World Civilization II**
This is a survey of the social, political, economic, cultural, religious, and intellectual history of the world from the 15th century to the present. The course examines major cultural regions of the world in Africa, the Americas, Asia, Europe, and Oceania and their global interactions over time. Themes include maritime exploration and transoceanic empires, national/state formation and industrialization, imperialism, global conflicts and resolutions, and the global economic integration. The course emphasizes the development, interaction, and impact of global exchange. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

**HIST 2327 Mexican-American History I**
This course is a study of historical, economic, social, and cultural development of Mexican-Americans/Chicanos to 1900. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

**HIST 2328 Mexican-American History II**
This course is a study of historical, economic, social, and cultural development of Mexican-Americans/Chicanos from 1900 to the present. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

**HIST 2381 African-American History**
This course examines the historical, economic, and cultural development of African Americans. It places an emphasis on the roles of African Americans in United States history and their contributions to the social, political, and economic foundations of United States history from the colonial era to present. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

**HIST 2389 Academic Cooperative**
This is an instructional program designed to integrate on-campus study with practical hands-on experience in history. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions. Prerequisites: Six hours of history; Reading level 7, Writing level 7 (3:1-8)

**HITT 1249 Pharmacology**
This is an overview of the basic concepts of the pharmacological treatment of various diseases affecting major body systems. (2:2-0)

**HITT 1301 Health Data Content and Structure**
This is an introduction to systems and processes for collecting, maintaining, and disseminating primary and secondary health related information including content of health record, documentation requirements, registries, indices, licensing, regulatory agencies, forms, and screens. Prerequisites: Reading level 4, Writing level 4 (3:2-2)

**HITT 1305 Medical Terminology I**
This is a study of medical terms through word origin and structure. Introduction to abbreviations and symbols, surgical and diagnostic procedures, and medical specialties. Prerequisites: Reading level 4, Writing level 4 (3:3-0)

**HITT 1307 Cancer Data Management I**
This introduction to Cancer Data Management includes cancer program requirements, the American College of Surgeons Cancer Program Survey process, and an overview of data collection/retrieval-abstracting coding, staging and reporting. Prerequisites: HITT 1305, HITT 1374, HPRS 2301 (3:3-0)

**HITT 1311 Health Information Systems**
This is an introduction to health IT standards, health-related data structures, software applications and enterprise architecture in health care and public health. Prerequisites: Reading level 4. Prerequisite or co-requisite: ITSC 1309 or BCIS 1305 (3:2-2)

**HITT 1341 Coding and Classification Systems**
This course covers fundamentals of coding rules, conventions, and guidelines using clinical classification systems. Prerequisites: Reading level 4, Writing level 4, Math level 4 (3:2-2)

**HITT 1345 Health Care Delivery Systems**
This course covers concepts of privacy, security, confidentiality, ethics, health care legislation, and regulations relating to the maintenance and use of health information. Prerequisites: Reading level 4 and Writing level 4 (3:3-0)

**HITT 1353 Legal and Ethical Aspects of Health Information**
This course covers concepts of privacy, security 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 1360 Clinical-Health Information/Medical Records Technology/Technician**
This is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: Reading level 4, Writing level 4, Math level 4 (3:0-9)
HITT 1361 Clinical-Health Information/Medical Records Technology/Technician
This is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: Reading level 4, Writing level 4, Math level 4 (3:0-9)

HITT 1374 Anatomy and Physiology
This is a 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 1377 Clinical-Billing and Coding
This advanced health professions work-based instruction helps students synthesize a new knowledge, apply previous knowledge, and gain experience managing the workflow in a clinical setting. Prerequisite: Reading level 4, Writing level 4, Math level 4 (3:0-9)

HITT 1378 Medical Insurance
This course includes instruction to inform and clarify medical insurance reimbursement via coding and completion of applicable insurance forms. Accurate ICD-9-CM and CPT coding to be used for completion of insurance forms to governmental agencies, insurance companies, and third party payors. Prerequisites: Reading level 4, Writing level 4, Math level 4 (3:3-0)

HITT 2245 Coding Certification Exam Review
This is a review of coding competencies and skills in preparation of a coding certification exam. Prerequisites: Reading level 4, Writing level 4, Math level 4 (2:2-0)

HITT 2249 RHIT Competency Review
This is a review of Health Information Technology (HIT) competencies, skills, and knowledge. (2:1-2)

HITT 2307 Cancer Data Management II
This is a continuation of Cancer Data Management I to include the application of cancer registry data. Prerequisite: HITT 1307, Co-requisite: HITT 2370 (3:3-0)

HITT 2335 Coding and Reimbursement Methodologies
This course covers advanced coding techniques with emphasis on case studies, health records, and federal regulations regarding prospective payment systems and methods of reimbursement. Prerequisites: Reading level 4, Writing level 4, and HITT 1341 (3:2-2)

HITT 2339 Health Information Organization and Supervision
This course covers principles of organization and supervision of human, financial, and physical resources. Prerequisites: Reading level 4, Writing level 4, Math level 4 (3:3-0)

HITT 2343 Quality Assessment and Performance Improvement
This is a study of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, compilation and presentation of data in statistical formats, quality management and performance improvement functions, utilization management, risk management, and medical staff data quality issues, and approaches to assessing patient safety issues and implementation of quality management and reporting through electronic systems. Prerequisites: Reading level 4, Writing level 4 (3:3-0)

HITT 2346 Advanced Medical Coding
This covers advanced concepts of ICD and CPT coding rules, conventions, and guidelines in complex case studies. Includes investigation of government regulations and changes in health care reporting. Prerequisite: Reading level 4, Writing level 4, Math level 4 (3:2-2)

HITT 2361 Clinical-Health Information/Medical Records Technology/Technician
This is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: Reading level 4, Writing level 4, Math level 4 (3:0-9)

HITT 2370 Cancer Data Management III
This is an advanced level course in Cancer Data Management to include Cancer Program requirements, the American College of Surgeons guidelines, and heavy concentration in abstracting, coding, staging and State and National reporting requirements. Prerequisites: HITT 1307. Co-requisite: HITT 2307 (3:3-0)

HMSY 1337 Introduction to Homeland Security
This course is an overview of homeland security including an evaluation of the profession of homeland security issues throughout Texas and the United States. The course includes an examination of the roles undertaken and methods used by government agencies and individuals to respond to those issues. Prerequisite: Reading level 4 (3:3-0)

HPRS 1105 Medical Law/Ethics for Health Professions
This is an introduction to the relationship between legal aspects and ethics associated with the health care field. Emphasis on the ethical and legal responsibilities of health care professionals. (1:1-0)
HPRS 1106 Essentials of Medical Terminology
This course is a study of medical terminology, word origin, structure and application. (1:1-0)

HPRS 1171 Medical Terminology
This course is a continuation in the study and practical application of a medical vocabulary system. Emphasis is on building a vocabulary required for practice within allied health care professions. Co-requisite: HPRS 1106 (1:1-0)

HPRS 1191 Special Topics in Allied Health-Clinical Lab Assistant
This course covers 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 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 1271 Medical Terminology
This course is a continuation in the study and practical application of a medical vocabulary system. Emphasis is on building a vocabulary required for practice within allied health care professions. Co-requisite: HPRS 1106 (2:2-0)

HPRS 1391 Special Topics in Allied Health-Clinical Lab Assistant
This course covers 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)

HPRS 2200 Pharmacology for Health Professions
This is a study of drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of doses. Prerequisites: Reading level 7, Writing level 6, HPRS 1106, 1171; SRGT 1505, 1509, 1471, and 1260. (2:2-0)

HPRS 2301 Pathophysiology
This is a study of the pathology and general health management of diseases and injuries across the life span. Topics include etiology, symptoms, and physical and psychological reactions to diseases and injuries. Prerequisites: Reading level 4, Writing level 4 (3:3-0)

HRPO 1311 Human Relations
This course teaches practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment. Prerequisite: Reading level 4 (3:3-0)

HRPO 2301 Human Resources Management
This course teaches behavioral and legal approaches to the management of human resources in organizations. Prerequisite: Reading level 4 (3:3-0)

HUMA 1301 Introduction to the Humanities I
This course is an interdisciplinary, multi-assessment perspective of cultural, political, philosophical, and aesthetic factors critical to the formation of values and historical development of the individual and of society. Generally focusing on works before 1600, this course may investigate imaginative works of literature, philosophy, art, music and other texts that mirror, interpret, and/or inform the relationship between the individual and the society. Instructors may use a thematic approach to the material or a linear survey of major ideas. HUMA 1301 and 1302 may be taken in any order. Prerequisites: ENGL 1301; Reading level 7 and Writing level 7 (3:3-0)

HUMA 1302 Introduction to the Humanities II
This course is an interdisciplinary, multi-assessment perspective of cultural, political, philosophical, and aesthetic factors critical to the formation of values and historical development of the individual and of society. Generally focusing on works after 1600, this course may investigate imaginative works of literature, philosophy, art, music and other texts that mirror, interpret, and/or inform the relationship between the individual and the society. Instructors may use a thematic approach to the material or a linear survey of major ideas. HUMA 1301 and 1302 may be taken in any order. Prerequisites: ENGL 1301; Reading level 7 and Writing level 7 (3:3-0)

HUMA 1305 Intro Mexican-American Studies
This is an introduction to the Mexican-American/Chicano culture, from its inception to the present. This is an interdisciplinary survey designed to introduce students to the salient cultural, economic, educational, historical, political, and social aspects of the Mexican-American/Chicano experience. Prerequisites: Reading level 6 and Writing level 6 (3:3-0)

HUMA 1311 Mexican-American Art Appreciation
This course is an examination of Mexican-American/Chicano artistic expressions in the visual and performing arts. Prerequisite: Reading level 6 (3:3-0)
IBUS 1300 Global Logistics Management
This course covers the study of global logistics, management processes, procedures, and regulations used in transportation, physical distribution, warehousing, inventory control, material handling, packaging, plant and warehouse location, risk management, customer service, and networks for logistics, suppliers, and information. It includes decision making and case resolution techniques to solve problems and to develop logistical and information networks for supply chain management appropriate for global corporations. (3:3-0)

IBUS 1301 Principles of Exports
This course is a study of export management processes and procedures including governmental control and compliance licensing or product. The course discusses documentation, commercial invoices, and traffic procedures, emphasizing human and public relations, management of personnel, finances, and accounting. Prerequisite: Reading level 4 (3:3-0)

IBUS 1302 Principles of Imports
This course covers the study of practices and processes of import management operations which may include such factors as government controls and compliance. It emphasizes the preparation and understanding of import documents such as customs invoices, packing lists, and commercial invoices. (3:3-0)

IBUS 1305 Introduction to International Business and Trade
This course covers techniques of entering the international marketplace, with an 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 1341 Introduction to International Supply Chain Global Management
This course is a study of international purchasing or sourcing. Topics include the advantages and the barriers of purchasing internationally, global sourcing and procurement technology, and purchasing processes. It emphasizes issues of contract administration, location, and evaluation of foreign suppliers, total cost approach, exchange fluctuations, customs procedures, and related topics. Prerequisite: Reading level 4 (3:3-0)

IBUS 1354 International Marketing Management
This course includes the study and analysis of international marketing strategies using market trends, costs, forecasting, pricing, sourcing, and distribution factors. Development of an international marketing plan is included. (3:3-0)

IBUS 2341 Intercultural Management
This course covers cross-cultural comparisons of demographic, economic, technological, and political-legal management and communications processes, emphasizing cultural geographic distinctions and antecedents that affect individual, group, and organizational behavior. The course may include sociocultural demographics, economics, technology, political and legal issues, negotiations, and processes of decision making in the international cultural environment. Prerequisite: Reading level 4 (3:3-0)

IBUS 2345 Import Customs Regulations
This course includes the study of duties and responsibilities of the licensed customs broker such as processes for customs clearance including appraisement, bonded warehouse entry, examination of goods, harmonized tariffs, fees, bonding, penalties, quotas, immediate delivery, consumption, and liquidation, computerized systems, laws and regulations. (3:3-0)

IBUS 2366 Field Experience—International Business/Trade/Commerce
This course offers 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 paid or unpaid. Prerequisites: 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 department chair and approval by instructor are required 60 days prior to enrolling. (3:0-21)

IBUS 2367 Practicum - Field Experience
This course provides general practicum training and field experience in the workplace emphasizing key components of international business, including human resources, management, organizational structure, import and export procedures, and compliance issues. Prerequisites: IBUS 2366 and Reading level 4 (3:0-21)

IFWA 1305 Food Service Equipment and Planning
This course is a study of various types of food service equipment and the planning of equipment layout for product flow and efficient operation. Prerequisite: Reading (3:0-21)

IFWA 1318 Nutrition for the Food Service Professional
This course is an introduction to nutrition including nutrients, digestion and metabolism, menu planning, recipe modification, dietary guidelines and restrictions, diet and disease, and healthy cooking techniques. Students may not receive credit for IFWA 1318 if they have previously earned credit for RSTO 1217. (3:3-0)
**IMED 1341 Interface Design -with Photoshop**
This course offers 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 is on aesthetic issues such as iconography, screen composition, colors, and typography. This class utilizes the Photoshop software package. (3:2-2)

**IMED 1345 Interactive Digital Media I**
This course covers the use of graphics and sound to create interactive digital media applications and/or animations using industry standard authoring software. (3:2-2)

**INCR 1302 Physics of Instrumentation**
This course is an introduction to simple control loops. Also, an introduction to pressure, temperature level, and flow transmitters and the various transducers used in the detection of changes in process variables. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:2-2)

**INDS 1411 Fundamentals of Interior Design**
This is an introduction to the elements and principles of design, and interior design profession, and the interior design problem-solving process. (4:3-3)

**INDS 1415 Materials, Methods and Estimating**
This is a study of materials, methods of construction and installation, and estimating for interior design applications. (4:3-3)

**INDS 1445 Commercial Design I**
This is a study of design principles applied to furniture layout and space planning for commercial interiors. (4:3-3)

**INDS 1449 Fundamental of Space Planning**
This course covers 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**
This course is an historical survey of design in architecture, interiors, furnishings, and decorative elements from the ancient cultures through the Italian Renaissance time period and includes a historical survey of antiquities and European styles and periods of architecture, interiors, and furnishings focusing on Egypt, Greece, Italy, Spain, and France. (4:4-0)

**INDS 1452 History of Interiors II**
This course is a multi-cultural historical survey of design in architecture, interiors, furnishings, and decorative elements from the post-Renaissance period to present time and includes an historical survey of English and American styles and periods of architecture, interiors, and furnishing focusing on the twentieth century. (4:4-0)

**INDS 2386 Internship-Interior Design**
This course 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. It offers experiences 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. Monitored 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. The course may be repeated if topics and learning outcomes vary. (3:0-9)
INRW 0102 Developmental Integrated Reading and Writing
This is a combined lecture/lab, performance-based course designed to develop students’ critical reading and academic writing skills. The focus of the course will be on applying critical reading skills for organizing, analyzing, and retaining material and developing written work appropriate to the audience, purpose, situation, and length of the assignment. The course integrates preparation in basic academic reading skills with basic skills in writing a variety of academic essays. This is a course with a required lab. The course fulfills TSI requirements for reading and writing. (1:0.5-0.5)

INRW 0301 Developmental Integrated Reading and Writing - Intermediate
This first-level course is a combined lecture/lab, performance-based course designed to develop students’ critical reading and academic writing skills. The focus of the course will be on applying critical reading skills for organizing, analyzing, and retaining material and developing written work appropriate to the audience, purpose, situation, and length of the assignment. The course integrates preparation in basic academic reading skills with basic skills in writing a variety of academic essays. This is a course with a required lab. The course fulfills TSI requirements for reading and/or writing. Prerequisite: Reading level 4, Writing level 4 (3:1-1)

INRW 0302 Developmental Integrated Reading and Writing - Advanced
This second-level course is a combined lecture/lab, performance-based course designed to develop students’ critical reading and academic writing skills. The focus of the course will be on applying critical reading skills for organizing, analyzing, and retaining material and developing written work appropriate to the audience, purpose, situation, and length of the assignment. The course integrates preparation in basic academic reading skills with basic skills in writing a variety of academic essays. This is a course with a required lab. The course fulfills TSI requirements for reading and/or writing. Prerequisite: Reading level 6, Writing level 6 (3:1-1)

INTC 1315 Final Control Elements
This course is a study of the various designs of final control elements including disassembly, assembly, calibration, troubleshooting, and required documentation. It includes 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 Controls I**
This course is a study of basic concepts related to analog measurement and control theory, including instrumentation test equipment and calibration circuits used in analog control systems. It features instruction in instrumentation calibrators and calibration circuits used for servicing and calibration of potentiometers, temperature transmitters and various transducers. Topics 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 or co-requisite: ELPT 1311 (3:2-2)

**INTC 1341 Principles of Automatic Control**
This course is a study of the theory of basic measurements, automatic control systems and design, closed loop systems, controllers, feedback, control modes and control configurations. Topics 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. Prerequisite: INTC 1301 (3:2-2)

**INTC 1348 Analytical Instrumentation**
This course is a study of analytical instruments emphasizing their utilization in process applications including, but not limited to, chromatography, PH, conductivity, and spectrophotometer instruments. Topics 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**
This course offers a review of basic measurement control instrumentation and digital concepts including a study of the movement of digital data through common systems and employing parallel and serial transfers. Prerequisite: ELPT 1311 (3:2-2)

**INTC 1353 Analog Controls II**
This course is a study of analog controls and electronic instrumentation systems. It introduces discrete components and basic power supplies and amplifiers. Topics 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**
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. It includes 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 1375 Sample Systems**
This course is designed to foster a comprehensive understanding of sample systems used in conjunction with process analytical instrumentation. Coverage will include sample system theoretical foundations, various sample system applications, design, testing and safety procedures, along with basic troubleshooting and maintenance techniques used when working with this hardware. (3:2-2)

**INTC 1443 Applications of Industrial Automatic Control**
This is 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, control valves, and process and instrument drawings. It includes connection and troubleshooting of loops. (4:3-3)

**INTC 1445 Instrumentation Repair**
This course includes an 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 2310 Principles of Industrial Measurement II**
This course is a study of advanced principles of measurement and devices used to measure process variables and basic control functions. Topics include hydrostatic tank gauging, buoyancy, capacitance, ultrasonic, nuclear, radar, and level as a function of weight. Flow topics 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. Prerequisite: INTC 1301 (3:2-2)

**INTC 2330 Troubleshooting**
This course in 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 1353 and INTC 2310 (3:2-2)

**INTC 2333 Instrumentation Systems Installation**
This course covers synthesis, application, and integration of instrument installation components and includes a comprehensive final project. Prerequisites: INTC 1353 and INTC 2310 (3:2-2)

**INTC 2336 Distributed Control and Programmable Logic**
This course is an overview of distributed control systems including configuration of programmable logic controllers, smart transmitters, and field communicators. It includes functions of digital systems in a process control environment. (3:2-2)
INTC 2339 Instrument and Control Review
This course is an overview of instrument and control technology, stressing preparation for industry employment testing for the National Institute of Engineering Technologist Certification (level 2) or the Instrumentation Systems and Automatic Certified Control Systems Technician (level 1) Certificate (ISA CCST). This course prepares graduating students with the background necessary to take the ISA Technician Training certification in preparation for industry employment and national testing. Prerequisites: INTC 1353 and INTC 2310 (3:3-0)

INTC 2345 Advanced Analyzers
This course covers advanced topics in composition analyzers and their sample systems. The course is designed to foster a comprehensive understanding of the more advanced analyzers, such as the gas chromatographs, ultraviolet and infrared analyzers. Coverage will include sample systems for the analyzers, the design and theory of operation of each analyzer type, safety procedures along with basic troubleshooting and maintenance techniques. Prerequisites: INTC 1348 and 1375 (3:2-2)

INTC 2359 Distributed Control Systems
This course is a study of philosophy and application of distributed control systems. Topics include hardware, firmware, software, configuration, communications and networking systems required to implement a distributed control strategy. Prerequisites: INTC 1353 and INTC 2310 (3:2-2)

INTC 2374 Physical Properties Analyzers
This course covers the theory of operation, calibration, sample analysis, maintenance and repair of pH, ORP, conductivity, oxygen and moisture analyzers and relevant safety concepts associated with each. Prerequisites: INTC 1348 and SCIT 1414 (3:2-2)

INTC 2388 Internship Instrumentation Technology/Technician
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. In this course students 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 (3:0-18)

INTC 2436 Distributed Control and Programmable Logic
This is an overview of distributed control systems including configuration of programmable logic controllers, smart transmitters, and field communicator; functions of digital systems in a process control environment. (4:3-3)

ITCC 1308 Introduction to Voice over Internet Protocol (VoIP)
This course covers basic concepts of voice over internet protocol (VoIP). Focuses on technology integration of and data transmission in network communications. Prerequisite: ITCC 1401 or INNW 1325 (3:2-2)

ITCC 1401 Cisco Exploration 1 - Network Fundamentals
This is a course introducing the architecture, structure, functions, components, and models of the Internet. It describes the use of OSI and TCP layered models to examine the nature and roles of protocols and services at the applications, network, data link, and physical layers. This course covers principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations. The students will build simple LAN topologies by applying basic principles of cabling; performing basic configurations of network devices, including routers and switches; and implementing IP addressing schemes. Prerequisite or co-requisite: ITSC 1305 or department chair approval (4:3-2)

ITCC 1404 Cisco Exploration 2 - Routing Protocols and Concepts
This course describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSPF. Students will recognize and correct common routing issues and problems, and model and analyze routing processes. Prerequisite: ITCC 1401 or department chair approval (4:3-2)

ITCC 2408 Cisco Explorations 3 - LAN Switching and Wireless
This course helps students develop an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks. Topics include detailed explanations of LAN switch operations, VLAN implementation, Rapid Spanning Tree Protocol (RSTP), VLAN Trunking Protocol (VTP), Inter-VLAN routing, and wireless network operations. Students will analyze, configure, verify, and troubleshoot VLANs, RSTP, VTP, and wireless networks. Campus network design and Layer 3 switching concepts are introduced. Prerequisite: ITCC 1404 or department chair approval (4:3-2)

ITCC 2410 Cisco Exploration 4 - Accessing the WAN
This course explains the principles of traffic control and access control lists (ACLs) and provides an overview of the services and protocols at the data link layer for wide-area access. Students will learn how to describe user access technologies and devices and discover how to implement and configure Point-to-Point Protocol (PPP), Point-to-Point Protocol over Ethernet (PPPoE), DSL, and Frame Relay. LAN security concepts, tunneling, and VPN basics are introduced. Students will discuss the special network services required by converged applications and an introduction to quality of service (QoS). Prerequisite: ITCC 2408 or department chair approval (4:3-2)
**ITNW 1325 Fundamentals of Networking Technologies**
This course covers instruction in networking technologies and their implementation. Topics include network fundamentals and terminology; the OSI reference model; network protocols; transmission media; networking hardware and software; identifying media used in network communication; connecting servers and clients in a network; recognizing the primary network architectures/topologies; determining how to implement and support the major networking components, including the server, operating system, and clients; distinguishing between Local Area Networks (LANs) and Wide Area Networks (WANs); identifying the components used to expand a LAN into a WAN; how to implement connectivity devices in the larger LAN/WAN environments; 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. (3:2-2)

**ITNW 1345 Implementing Network Directory Services**
This course provides students with in-depth coverage of the skills necessary to install, configure, and administer Network Directory service. Prerequisite: ITNW 1354 or department chair approval (3:2-2)

**ITNW 1353 Supporting Network Server Infrastructure**
Installing, configuring, managing, and supporting a network infrastructure are covered in this course. Implementing routing; implementing, managing and maintaining Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and Windows Internet Name Service (WINS); securing Internet Protocol (IP) traffic with Internet Protocol security (IPSec) and certificates; implementing a network access infrastructure by configuring the connections for remote access clients; and managing and monitoring network access are topics covered in this course. (Non-vendor specific course.) Prerequisite: ITNW 1354 or department chair approval (3:2-2)

**ITNW 1354 Implementing and Supporting Servers**
This is a course in the development of skills necessary to implement, administer, and troubleshoot information systems that incorporate servers in a networked computing environment. Topics include managing accounts and resources, maintaining server resources, monitoring server performance, and safeguarding data in a Microsoft Windows Server 2003 environment, including 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. It also covers how to configure directory applications, how to manage licenses, user group accounts, user profiles, system policies and profiles, administer remote servers, 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: ITSC 1305 or department chair approval (3:2-2)

**ITNW 1392 Special Topics in Computer Systems Networking and Telecommunications**
Topics in this course address 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 2352 Administering SQL Server**
This is a skills development course in the installation, configuration, administration, and troubleshooting of SQL Servers client/server database management system version. Prerequisites: ITSW 2337 and ITNW 1325 or department chair approval (3:2-2)

**ITSC 1305 Introduction to PC Operating Systems**
This course is a study of current personal computer operating systems. Topics include installation and configuration, file management, memory and storage management, control of peripheral devices, use of utilities including command line, and the Windows operating system. (3:2-2)

**ITSC 1307 UNIX Operating System I**
This course covers an introduction to 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**
This course covers an introduction to business productivity software suites using word processing, spreadsheets, databases, and/or presentation software. It includes 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 also be covered. (3:2-2)

**ITSC 1319 Internet/Web Page Development**
This course includes instruction in the use of Internet concepts and the introduction to web page design and website development. It is an introduction to designing and publishing web documents. It includes basic markup language, hyperlinks, tables, frames, images, forms, and an exploration of tools available for creating and editing web documents. (3:2-2)

**ITSC 1321 Intermediate PC Operating Systems**
The course covers custom operating system installation, configuration, and troubleshooting. Topics include installation and configuration, file management, memory and storage management, continued study in advanced installation, configuration troubleshooting, advanced file management, memory, storage management. It also covers how to 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. Prerequisite: ITSC 1325 or department chair approval (3:2-2)
ITSC 1325 Personal Computer Hardware
This course is a study of current personal computer hardware, including personal computer assembly, 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 external drives, data recovery methods, and installing peripheral equipment. (3:2-2)

ITSC 1391 Special Topics in Computer and Informational Sciences, General
Topics addressed in this course include 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
This course is an intermediate study of computer applications from business productivity software suites. It also covers 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 2337 UNIX Operating System II
This course is a continued study of the UNIX operating system commands. It includes advanced concepts of system management and communication, the installation and maintenance of software, network security, and data integrity issues. This course heavily utilizes the Linux OS and includes additional topics such as CGI, PERL, and scripting languages. Prerequisite: ITSC 1307 or department chair approval (3:2-2)

ITSC 2339 Personal Computer Help Desk
This course covers diagnosis and solution of user hardware and software related problems with on-the-job and/or simulated projects. Emphasis will be placed upon hands-on training (e.g., participation in the construction of an expert system). Prerequisite: ITSC 1325 or ITSC 2321 or department chair approval (3:2-2)

ITSC 2364 Practicum - Computer and Information Sciences, General
This practicum class is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: 15 credit hours of computer courses (9 of these credit hours must be earned at San Jacinto College) which must include at least one of the following courses: ITCC 1404, ITNW 1354, ITNW 2354, ITSE 1359, ITSE 2313, ITSE 2331, ITSW 2334, or ITSW 2337. An accumulative GPA of at least 2.0 is required. An interview and department chair approval are required 60 days prior to enrollment. (3:0-21)

ITSE 1307 Introduction to C++ Programming
This course is an introduction to computer programming using C++. The emphasis is on the fundamentals of object-oriented design with development, testing, implementation, and documentation. It 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. (3:2-2)

ITSE 1329 Programming Logic and Design
This course covers programming problem-solving by applying object oriented programming and structured programming techniques, and representation of algorithms using appropriate design tools such as hierarchy charts, flowcharts, data flow charts, and pseudocode. It includes discussion of methods for testing, evaluating, and documenting programs. This course includes hands-on lab assignments to implement the techniques. (3:3-1)

ITSE 1331 Introduction to Visual BASIC Programming
This is an introduction to computer programming using Visual BASIC, with an emphasis on the fundamentals of structure design, development, testing, implementation, and documentation. The course 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. (3:2-2)

ITSE 1345 Introduction to Oracle SQL
This course is 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 1307 or department chair approval (3:2-2)

ITSE 1356 Extensible Markup Language (XML)
This course is an introduction of skills and practices related to Extensible Markup Language (XML). Includes Document Type Definition (DTD), well-formed and valid XML documents, XML schemes, and Extensible Style Language (XSL). (3:2-2)

ITSE 1359 Introduction To Scripting Languages
This course is an introduction to scripting languages including basic data types, control structures, regular expressions, input/output, and textual analysis. (3:2-2)

ITSE 1391 Special Topics in Computer Programming
Topics in this course address current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. (3:2-2)
ITSE 2309 Database Programming
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 language (SQL Server) to design SQL Server applications; architecture describing Transact-SQL. It also covers how to 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: ITSC 1309 or department chair approval (3:2-2)

ITSE 2313 Web Authoring
This course provides instruction in designing and developing Web pages that incorporate text, graphics, and other supporting elements using current technologies and authoring tools. Prerequisite: ITSE 1311 or ITSE 1305 or ITSC 1313 or ITSC 1319 or department chair approval (3:2-2)

ITSE 2317 Java Programming
This course is an introduction to object-orientation Java programming. It emphasizes 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
This course includes further application of C++ programming techniques including 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, students 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 2345 Data Structures
This course covers the design and analysis of data structures and their operations. Prerequisite: ITSE 1307 or COSC 1337 or department chair approval (3:2-2)

ITSE 2359 Advanced C++ Programming
This course includes further application of C++ programming techniques including 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, students 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 2300 Operating System Security
This course covers the safeguarding of computer systems by demonstrating server support skills and designing and implementing a security system. Students will identify security threats and monitor network security implementations, and use best practices to configure operating systems to industry security standards. Prerequisite or co-requisite: ITSE 1342 or department chair approval (3:2-2)

ITSE 2301 Firewalls and Network Security
Students will identify elements of firewall design, types of security threats and responses to security attacks using best practices to design, implement, and monitor a network security plan, as well as perform security incident postmortem reporting and ongoing network security activities. Prerequisite: ITSE 1342 or department chair approval (3:2-2)

ITSE 2343 Computer System Forensics
This course provides an in-depth study of system forensics including methodologies used for analysis of computer security breaches. It also includes gathering and evaluating evidence to perform postmortem analysis of a security breach. Prerequisites: ITSE 1342 and ITSE 2301 or department chair approval (3:2-2)
LGLA 1303 Legal Research
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 or co-requisite: LGLA 1307 (3:3-0)

LGLA 1305 Legal Writing
This course presents the fundamentals of legal writing techniques. Topics include letters, case briefs, legal memoranda, trial and appellate briefs, case and fact analysis, citation forms, and legal writing styles. It is recommended you take or have taken LGLA 1303, Legal Research. Prerequisites: LGLA 1307, ENGL 1301 (3:3-0)

LGLA 1307 Introduction to Law and the Legal Professions
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; explain the ethical obligations. Prerequisite: Reading level 4 (3:3-0)

LGLA 1317 Law Office Technology
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. (3:3-1)

LGLA 1343 Bankruptcy
This course presents fundamental concepts of bankruptcy law and procedure with emphasis on the paralegal's role. Topics include individual and business liquidation and reorganization. Prerequisite: Reading level 4 and Prerequisite or co-requisite: LGLA 1307 (3:3-0)

LGLA 1345 Civil Litigation
This course presents fundamental concepts and procedures of civil litigation with emphasis on the paralegal's role. Topics include pretrial, trial, and post trial phases of litigation. 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 1349 Constitutional Law
This course presents an overview of the United States Constitution and its articles, amendments, and judicial interpretations. Includes separation of powers, checks and balances, governmental structures and process, and individual rights in relation to government. Prerequisite: Reading level 4. Prerequisite or co-requisite: LGLA 1307 (3:3-0)

LGLA 1351 Contracts
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 or co-requisite: LGLA 1307 (3:3-0)

LGLA 1353 Wills, Trusts, and Probate Administration
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. Prerequisites or co-requisites: LGLA 1307, Reading level 4 (3:3-0)

LGLA 1355 Family Law
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 1359 Immigration Law
This course presents fundamental concepts of immigration law with emphasis on the paralegal's role. Topics include substantive and procedural law related to visa applications, deportation, naturalization, and citizenship. Prerequisite: Reading level 4 and prerequisite or co-requisite: LGLA 1307 (3:3-0)

LGLA 1391 TX and US Constitutional Law
This course includes a study of specific limited provisions of the Texas and U.S. Constitutions affecting recent societal legal issues. Discussion includes the history and evolution of both documents. Students will analyze case law from the U.S. Supreme Court, the Texas Supreme Court and the Texas Court of Criminal Appeals analyzing both constitutions. Students will complete a written law office memorandum based on assigned facts. Prerequisite or co-requisite: LGLA 1307 (3:3-0)
LGLA 2303 Torts and Personal Injury Law
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, with an emphasis on developing interviewing and investigative skills to prepare the paralegal to communicate effectively while recognizing ethical problems in this area of flow. Prerequisites or co-requisites: Reading level 4, LGLA 1307 (3:3-0)

LGLA 2305 Interviewing and Investigating
This course is a study of techniques used to locate, gather, document, and manage information with emphasis on developing interview and investigative skills and the paralegal’s role in interviewing and investigating legal matters. Prerequisite or co-requisite: LGLA 1307. Prerequisite: Reading level 4 (3:3-0)

LGLA 2309 Real Property
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. Prerequisites or co-requisites: LGLA 1307, Reading level 4 (3:3-0)

LGLA 2311 Business Organizations
This course presents basic concepts of business organizations with emphasis on the paralegal’s role. Topics include law of agency, sole proprietorships, forms of partnerships, corporations, and other emerging business entities. 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; and draft documents required for the formation, operation, and termination of business entities. Prerequisite or co-requisite: LGLA 1307, Reading level 4 (3:3-0)

LGLA 2313 Criminal Law and Procedure
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 criminal 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 2323 Intellectual Property
This course presents the fundamentals of intellectual property law, including creation, procurement, preparation, and filing documents related to patents, copyrights, trademarks, and processes of intellectual property litigation with emphasis on the paralegal’s role. Prerequisite: Reading level 4 and prerequisite or co-requisite: LGLA 1307 (3:3-0)

LGLA 2333 Advanced Legal Document Preparation
This course covers preparation of legal documents based on hypothetical fact situations drawn from various areas including real estate, family law, contracts, litigations, and business organizations. Prerequisites or co-requisites: LGLA 1307, Reading level 4 (3:3-0)

LGLA 2335 Advanced Civil Litigation
This course implements advanced civil litigation techniques with emphasis on the paralegal’s role and builds upon skills acquired in prior civil litigation courses. It is recommended you take or have taken LGLA 1345 Civil Litigation. Prerequisite: LGLA 1307, Reading level 4 (3:3-0)

LGLA 2388 Internship-Paralegal/Legal Assistant
This course provides 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” the semester before they plan to take this course. This course may be taken a maximum two times for credit.) (3:1-15)

LMGT 1319 Introduction to Business Logistics
This course is a systems approach to managing activities associated with traffic transportation, inventory management and control, warehouse, packaging, order processing, and materials handling. Prerequisite: Reading level 4 (3:3-0)

LMGT 1325 Warehouse and Distribution Center Management
This course emphasizes physical distribution and total supply chain management. It includes warehouse operations management, hardware and software operations, bar codes, organization effectiveness, just-in-time manufacturing, continuous replenishment, and third-party issues. Prerequisite: Reading level 4 (3:3-0)

LMGT 1345 Economics of Transportation and Distribution
This is a study of the basic economic principles and concepts applicable to transportation and distribution. Prerequisite: Reading level 4 (3:3-0)
LTCA 1312 Resident Care in the Long-Term Care Facility
This course includes a study of the delivery of quality services to residents of long-term care facilities. It is an overview of the methods for accessing and implementing strategies to promote quality resident care, and includes a presentation of philosophical and ethical considerations. (3:3-0)

LTCA 1313 Organization and Management of Long Term Care Facilities
This is an overview of the functional organizational structures common to long term health care facilities. It includes 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
This is an examination of the types and sources of law relating to the long term care industry. A study of federal, state, and local statues and regulations affecting the long-term care industry is covered. (3:3-0)

LTCA 2315 Financial Management of Long Term Care Facilities
This is a study of techniques and strategies for gathering and using financial information to make decisions in the long-term care facility and includes 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)

LTCA 2388 Internship-Health Care Facilities Administration/Management
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. (3:0-18)

LTCA 2488 Internship-Health Care Facilities Administration/Management
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. (3:0-22)

LTCA 2489 Internship-Health Care Facilities Administration/Management
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. (3:0-23)

MAMT 2333 Anatomy/Positioning and Patient Assessment
This course is a presentation of specialized instruction in breast imaging. Emphasis will be placed on breast anatomy, physiology, positioning, patient education, and assessment. Anatomy instruction will include surface anatomy as well as deep anatomy. Further emphasis will be placed on routine and additional projections and positioning modifications. Prerequisite: Graduate of a 2-year accredited medical radiography program in Radiology, ARRT certification in Radiography. (3:3-0)

MAMT 2363 Clinical - Mammography Technology
This course is 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: Graduate of a 2-year accredited medical radiography program in Radiology, ARRT certification in Radiography. (3:0-10)

MARA 2401 Introduction to Ships and Shipping
Introduction to the maritime industry and ships used in the transportation of goods and services. Shipboard nomenclature, types and missions of merchant ships, shipbuilding nomenclature and dimensions, shipbuilding materials and methods, modes of cargo handling and their impact on ship design. Prerequisite: Reading level 7 (4:3-2)

MART 1471 Introduction to Ships and Shipping
This is an introduction to the maritime industry and ships used in the transportation of goods and services. Shipboard nomenclature, types and missions of merchant ships, shipbuilding, shipbuilding materials and methods, modes of cargo handling and their impact on ship design. Prerequisite: Reading level 4 (4:4-0)

MATH 0106 NCBO Preparation for Academic Mathematics
This course is intended for students who nearly place into a transfer-level math course. The course includes the study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations. The use of an online software package is required. (1:1-0)

MATH 0303 Basic Mathematics
This is an arithmetic course which builds basic skills of addition, subtraction, multiplication and division with whole numbers, fractions, and decimals. Additional topics include graphing whole numbers, fractions and decimals on a number line as well as area and perimeter concepts. This course is designed specifically for students who need a review of the basic arithmetic skills or have not yet mastered them. This course is not applicable toward any degree. Prerequisite: Math level 2 (3:2-2)