CDEC 1321 The Infant and Toddler
3 Hours (2-2-0)
This course is a study of appropriate infant and toddler programs, (birth to 3 years) including an overview of development, quality routines, appropriate environments, materials and activities and teaching/guidance techniques. Prerequisite: TECA 1354.

CDEC 1332 Observation and Assessment
3 Hours (2-2-0)
This course is a study of observation skills, assessment techniques, and documentation of children’s development.

CDEC 1356 Emergent Literacy for Early Childhood
3 Hours (2-2-0)
This course is an exploration of principles, methods, and materials for teaching young children language and literacy through a play-based, integrated curriculum.

CDEC 1358 Creative Arts for Early Childhood
3 Hours (2-2-0)
This course is an exploration of principles, methods, and materials for teaching children music, movement, visual arts, and dramatic play through process-oriented experiences to support divergent thinking.

CDEC 1359 Children with Special Needs
3 Hours (2-2-0)
This course is a survey of information regarding children with special needs including possible causes and characteristics of exceptionalities, intervention strategies, available resources, referral processes, the advocacy role and legislative issues.

CDEC 2307 Math and Science for Early Childhood
3 Hours (2-2-0)
This course is an exploration of principles, methods, and materials for teaching children math and science concepts and process skills through discovery and play.

CDEC 2315 Diverse Cultural/Multilingual Education
3 Hours (2-2-0)
This course is an overview of multicultural education to include relationship with the family and community to development awareness and sensitivity to diversity related to individual needs of children.

CDEC 2326 Administration of Programs for Children I
3 Hours (2-2-0)
This course is a practical application of management procedures for early care and education programs, including a study of planning, operating, supervising, and evaluating programs. Topics on philosophy, types of programs, policies, fiscal management, regulations, staffing, evaluation, and communication will be covered.

CDEC 2328 Administration of Programs for Children II
3 Hours (2-2-0)
This course is an in-depth study of the skills and techniques in managing early care and education programs, including legal and ethical issues, personnel management, team building, leadership, conflict resolution, stress management advocacy, professionalism, fiscal analysis and planning parent education/partnerships, and technical applications in programs. Prerequisite: CDEC 2326.

CDEC 2336 Administration of Programs for Children III
3 Hours (2-2-0)
This course is an advanced study of the skills and techniques in managing early child care education programs.

CDEC 2340 Instructional Techniques for Children with Special Needs
3 Hours (2-2-0)
This course is an exploration of the development and implementation of curriculum for children with special needs.

CDEC 2341 The School Age Child
3 Hours (2-2-0)
This course is a study of appropriate programs for the school age child (5 to 13 years) including an overview of development, appropriate environments, materials, activities and teaching/guidance techniques.

CDEC 2366 Practicum in Child Development and Early Childhood
3 Hours (0-0-21)
This course is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: Basic skills certificate or AAS majors only.

CETT 1402 Electricity Principles
4 Hours (3-3)
Principles of electricity including proper use of test equipment, A/C and D/C circuits, and component theory and operation. Students will identify basic principles of electricity (A/C and D/C), voltage, current, and circuitry; apply Ohm’s law to electrical calculations; use test equipment to measure continuity voltage, and current values; and use electrical safety practices.

CETT 2380 Cooperative Education - Computer Engineering Technology/Technician
3 Hours (1-0-20)
Career related activities encountered in the student’s area of specialization are offered through a cooperative agreement between the employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience directly related to a technical discipline, specific learning objectives guide the student through work experience. This course may be repeated if topics and learning outcomes vary. Prerequisite: 12 semester credit hours.

CHEM 1104 Chemical Calculations
1 Hour (1-0)
Study of the mathematical application used in chemistry. Designed for science and engineering students. Lab fee required.

CHEM 1405 Introductory Chemistry
4 Hours (3-4)
This survey course for non-science majors will enable these students to comprehend the fundamental concepts of chemistry and will fulfill four credit hours of the lab science requirement.

CHEM 1411 General Inorganic Chemistry I
4 Hours (3-3)
This course will enable students to become proficient in stoichiometry, chemical equations, atomic structure, chemical bonding, reactions, gas laws, liquids and solids, and solutions. A knowledge of algebra is needed.

CHEM 1412 General Inorganic Chemistry II
4 Hours (3-3)
This course will enable students to become proficient in acid-base theory, oxidation-reduction reactions, chemical kinetics, aqueous equilibria, electrochemistry, and organic chemistry. Prerequisite: “C” or greater in CHEM 1411.
ECON 2302 Principles of Microeconomics  
3 Hours (3-0)  
The students will study microeconomic theory and the operation of individual firms and industries. Topics will include supply and demand, opportunity costs, the concept of utility, cost curves and revenue curves, and the various forms of business organizations.

EDUC 1200 Student Success Seminar  
2 Hours (2-1)  
Addresses the knowledge necessary for college success; develops the skills necessary to study and learn; and develops competence in finding information and resources. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual bases for this introduction to college-level student academic strategies. Students develop educational plans and use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. (Cross-listed as PSYC 1200)

EDUC 1301 Introduction to the Teaching Professions  
3 Hours (3-1)  
An enriched integrated pre-service course designed to provide active recruitment and institutional support for students interested in a teaching career. Early Childhood (EC)-12. This Course meets State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Includes 16 contact hours of field experience.

EDUC 2301 Introduction to Special Populations  
3 Hours (3-1)  
An enriched integrated pre-service course 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. Content is aligned with State Board for Educator Certification Pedagogy and Professional Responsibilities standards and includes 16 contact hours of field experience. Prerequisite: EDUC 1301.

ELMT 1305 Basic Fluid Power  
3 hours (2-2)  
Basic fluid power course covering pneumatic and hydraulic systems, fluid power symbols, operating theory, components, and basic electrical and manual controls. Students will identify fluid power symbols; demonstrate knowledge of basic fluid power theory; demonstrate knowledge of component operation; generate basic fluid power circuits; and demonstrate fluid power circuits using electrical and manual controls.

ELMT 1370 Pumps and Electromechanical Drives  
3 hours (2-2)  
A study of basic electro-mechanical devices found in energy-related equipment. Includes pumps, compressors, and components of mechanical power transmission systems. The student will describe the operation and characteristics of mechanical power transmission systems and troubleshoot problems with pumps, compressors, and mechanical drives.

ELMT 1371 Electromechanical Troubleshooting  
3 hours (2-2)  
Techniques used to troubleshooting various types of mechanical, electrical, hydraulic, and pneumatic systems and their control devices. Emphasizes the use of schematics and diagrams in conjunction with proper troubleshooting procedures. The student will apply proper test equipment for problem analysis; find test point locations and perform troubleshooting procedures using schematics and diagrams; isolate faults; and perform routine maintenance.

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

EMAP 1440 Disaster Exercise Design and Evaluation  
4 Hours (4-0)  
Twelve-step process in the development of emergency management exercises, beginning with assessing a jurisdiction’s exercise needs and continuing through criteria-based evaluation and after-action reporting. Provides students with detailed information concerning the system for command, control, and coordination of emergency response. This course is equivalent to the Texas Department of Emergency Management and the Federal Agency course G920.

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

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

EMAP 2355 Disaster Recovery  
3 Hours (3-0)  
Policies, concepts, and procedures of recovery. Addresses the various federal and state assistance programs. Emphasizes coordination of damage assessment, preparing documentation, and recovery procedures. This course is equivalent to the Texas Department of Emergency Management and the Federal Management Agency course G620.
ENGL 1071 Intermediate Writing II
1 Hour (0-1)
Required for student taking ENGL 1301 under the “C” or better option. Student must make a “C” in this course and a “C” in ENGL 1301 to fulfill college writing readiness requirement.

ENGL 2070 Intermediate Writing I
2 Hours (0-2)
A writing-intensive lab course designed to prepare the student for college writing readiness. Prerequisite: ENGL 0371.

ENGL 0370 Developmental Writing I
3 Hours (3-1)
A course designed to assist students to become more proficient in grammar, mechanics, expository writing, vocabulary, and critical reading. Students are required to work on writing, vocabulary, grammar, and punctuation in writing lab.

ENGL 0371 Developmental Writing II
3 Hours (3-1)
A course designed to assist students to become more proficient in grammar, mechanics, expository writing, vocabulary, and critical reading. Students are required to work on writing, vocabulary, grammar, and punctuation in writing lab.

ENGL 1301 Composition and Rhetoric
3 Hours (3-0)
A course designed to help students develop reading and writing skills by studying diction, syntax, paragraph development, grammar, vocabulary and essay organization and by writing expository paragraphs and essays. Course assignments will include a minimum of 6000 words of writing. Prerequisite: 220+ THEA Writing and 230 THEA Reading or 70/6 Compass Writing and 81 Compass Reading or successful completion of developmental education sequence. Co-requisite: ENGL 0181, when taken as culmination of developmental education sequence.

ENGL 1302 Composition and Literature
3 Hours (3-0)
A course designed to enable students to further their composition skills by writing multi-paragraph essays, including a research paper; to write logically; and to read, research, analyze, and discuss the literary genres of poetry, short fiction, and drama. Course assignments will include a minimum of 6000 words of writing. Prerequisite: ENGL 1301.

ENGL 2307 Creative Writing
3 Hours (3-0)
A course designed to enable students to investigate and discuss the creative process, to study and practice techniques of creative writing; and to read, analyze, discuss, and write two or more of the following: narrative essays, poems, short stories, and researched reviews/abstracts. Course assignments will include a minimum of 6000 words of writing. Credit will be given only once for ENGL 2307.

ENGL 2308 Advanced Studies in Creative Writing
3 Hours (3-0)
An advanced course designed to enable students to investigate and discuss the creative Process; to study and practice techniques of creative writing; and to read, analyze, discuss, and write one or more of the following: narrative essays, poems, short stories, and plays. Credit will be given only once for ENGL 2308. Prerequisite: ENGL 1301.

ENGL 2311 Technical Writing
3 Hours (3-0)
A course designed to enable students to organize and prepare basic technical materials in the following areas: abstracts; proposals, technical descriptions, instructional processes, informational processes, technical definitions, progress reports; formal technical reports, graphics, and business correspondence. Course is designed also to enable students to analyze audience and present oral reports. Course assignments will include a minimum of 6000 words of writing. Prerequisite: ENGL 1301.

ENGL 2314 Technical & Business Writing I
3 Hours (3-0)
First semester of a study designed to enable students to organize and prepare materials for college-level scientific, technical, or business writing. Course assignments will include a minimum of 6000 words of writing. Prerequisite: ENGL 1301.

ENGL 2315 Technical & Business Writing II
3 Hours (3-0)
Second semester of a study designed to enable students to organize and prepare materials for college-level scientific, technical, or business writing. Course assignments will include a minimum of 6000 words of writing. Prerequisite: ENGL 2314.

ENGL 2321 Masterworks of British Literature
3 Hours (3-0)
The study of longer significant works of British literature, including study of movements, schools, or periods. Prerequisite: ENGL 1302. Course assignments will include a minimum of 6000 words of writing.

ENGL 2322 British Literature Anglo-Saxon Period through Neo-Classical
3 Hours (3-0)
A course designed to enable students to develop a historical perspective on the development of ideas and literary techniques by studying major authors, works, and trends in English literature from the Anglo-Saxon Period through the Neo-classical Age. Students will develop their critical thinking, research, and writing skills. Course assignments will include a minimum of 6000 words of writing. Prerequisite: ENGL 1302.
ITCW 2410 Cisco Exploration 4 – Accessing the WAN
4 Hours (3-3)
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. Describes 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. WSN security concepts, tunneling, and VPN basics are introduced. Discuss the special network services required by converged applications and an introduction to quality of service (QoS). Students will describe the impact of applications (Voice Over IP and Video Over IP) on a network; implement basic switch security (port security, trunk access, management vlan other than vlan1, etc.); configure, verify, and troubleshoot DHCP and DNS operation on a router (CLI/SDM); describe today’s increasing network security threats and explain the need to implement a comprehensive security policy to mitigate the threats; configure and apply ACLs based on network filtering requirements (CLI/SDM); configure and apply an ACLs to limit telnet and SSH access to the router using (SDM/CLI); configure NAT for given network requirements using (CLI/SDM); configure and verify a basic WAN serial connection; configure and verify Frame Relay on Cisco routers; and describe VPN technology (importance, benefits, role, impact, components). Prerequisite: ITCC 2408.

ITNW 1351 Fundamentals of Wireless LANs
3 Hours (2-2)
An overview of distributed control systems including configuration of programmable logic controllers, smart transmitters, and field communicators. Functions of digital systems in a process control environment. Students will configure programmable logic controllers (PLC’s) to perform various tasks; explain how programmable logic controllers control the process environment; operate and troubleshoot digital systems. Pre-requisite: ELMT 1371 or Instructor permission.

ITNW 1380 Cooperative Education - Business Systems Networking and Telecommunications
3 Hours (1-0-20)
Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. As outlined in the learning plan, the student will master the theory, concepts, and skills involving the tools, materials, equipment, procedures, regulations, laws, and interactions within and among political, economic, environmental, and legal systems associated with the particular occupation and the business/industry; demonstrate ethical behavior, safety practices, interpersonal and teamwork skills, communicating in the applicable technical language of the occupation and the business or industry. Prerequisite: 12 semester credit hours or instructor permission.

ITNW 1385 Fundamentals of Networking Technologies
4 Hours (3-2)
Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software. Students will identify and use network transmission media; explain the OSI model; identify the characteristics of network topologies and protocols; identify the functions of a network operating system and distinguish between centralized, client/server, and peer-to-peer systems; and distinguish between Local Area Networks (LANs) and Wide Area Networks (WANS) and identify the components used to expand a LAN into a WAN.

ITNW 1454 Implementing and Supporting Servers
4 hours (3-3)
Implement, administer, and troubleshoot information systems that incorporate servers in a networked computing environment. Students will configure peripherals and devices; set up servers; configure directory replication; manage licensing; create and manage system policies, and profiles; administer remote servers and disk resources; create and share resources; implement fault-tolerance; configure servers for interoperability; install and configure Remote Access Service (RAS); and identify and monitor performance bottlenecks and resolve configuration problems.

ITSC 1191 Special Topics in Computer and Information Sciences, General
1 Hour (1-0)
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. The Student will learn to use the Internet including performing simple searches, learn how to use the Microsoft Office Suite of application software, and learn how to organize files and folders.

ITSC 1407 UNIX Operating System I
4 Hours (3-3)
A study of the UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. Topics include introductory systems management concepts. The student will demonstrate proper use of basic UNIX commands; define and apply terminal emulation; use the system editor to create script files; create and manage user accounts; and effectively manage the user file system.

ITSC 1409 Integrated Software Applications I
4 Hours (3-3)
Introduction to business productivity software suites using word processing, spreadsheets, databases, and/or presentation software. Students will use word processing, spreadsheet, database, and/or presentation software; and integrate applications to produce documents.

ITSC 2437 UNIX Operating System II
4 Hours (3-3)
Continued study of the UNIX operating system commands. Includes topics such as CGI and scripting languages. Students will solve intermediate problems using UNIX commands such as SED, AWK, and GREP from the command line and in the basic scripts; and develop CGI script using a scripting language. Prerequisite: ITSC 1407 or instructor permission.
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<td>Fundamentals of Music</td>
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<td>MUSI 1302</td>
<td>Music Appreciation</td>
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<td>Survey of Music Literature</td>
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<td>Public School Music Methods and Materials</td>
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<td>MUSI 1305</td>
<td>Jazz Improvisation</td>
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<td>MUSI 1306</td>
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<td>MUSI 1307</td>
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<td>PHIL 1301</td>
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<td>OSHT 1302</td>
<td>Energy Industrial Safety</td>
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**Course Descriptions**

- **MUSI 1147, 1148, 2147, 2148 Men’s Choir I, II, III, IV** 3 Hours (3-0)
- **MUSI 1151, 1152, 2151, 2152 Jazz Singers I, II, III, IV** 1 Hour (0-5)
- **MUSI 1159, 2159 Musical Theatre I, II** 1 Hour (1-2)
- **MUSI 1161, 1162 Diction I, II** 1 Hour (1-1)
- **MUSI 1163, 1164 Jazz Improvisation I, II** 1 Hour (0-3)
- **MUSI 1181, 1182, 2181, 2182 Class Piano I, II, III, IV** 1 Hour (2-1)
- **MUSI 1183, 1184, 2183, 2184 Class Voice I, II, III, IV** 2 Hours (1-1)
- **MUSI 1301 Fundamentals of Music** 3 Hours (3-0)
- **MUSI 1302 Music Appreciation** 3 Hours (3-0)
- **MUSI 1303 Survey of Music Literature** 3 Hours (3-0)
- **MUSI 1304 Public School Music Methods and Materials** 3 Hours (3-0)
- **MUSI 1305 Jazz Improvisation** 3 Hours (0-3)
- **MUSI 1306 American Music: History of Country Music** 3 Hours (3-0)
- **MUSI 1307 American Music: Rock ‘n’ Roll Music** 3 Hours (3-0)
- **MUSI 1308 American Music: Jazz** 3 Hours (3-0)
- **MUSI 1309 American Music: Jazz Improvisation** 3 Hours (0-3)
- **PHIL 1301 Introduction to Philosophy** 3 Hours (3-0)

**Course Details**

- **MUSI 1147, 1148, 2147, 2148 Men’s Choir I, II, III, IV**
  - A course designed to enable student to trace the development of country music and its function in American culture from Appalachia in the 1920s to present.
  - Credit will be given only once for MUSI 1310.

- **MUSI 1151, 1152, 2151, 2152 Jazz Singers I, II, III, IV**
  - A preparatory course for music majors, not applicable toward the music degree. MUSI 1301 examines the fundamentals of rhythm, melody, harmony, ear-training, sight singing, and keyboard.

- **MUSI 1159, 2159 Musical Theatre I, II**
  - Study and performance of works from the musical theatre repertoire.

- **MUSI 1161, 1162 Diction I, II**
  - Class instruction in the fundamentals of correct breathing, tone production, and diction. Laboratory course designed for students with little or no previous voice training. Aids in developing a pleasing tone quality that is produced with ease and proper enunciation.

- **MUSI 1163, 1164 Jazz Improvisation I, II**
  - Beginning piano. A series of introductory courses designed for students with little or no previous piano playing experience. Topics explored include physical technique, practice methods, repertoire, style and interpretation, comfort in performance settings, improvisation, and appropriate concepts from music theory and history.

- **MUSI 1181, 1182, 2181, 2182 Class Piano I, II, III, IV**
  - Beginning piano. A series of introductory courses designed for students with little or no previous piano playing experience. Topics explored include physical technique, practice methods, repertoire, style and interpretation, comfort in performance settings, improvisation, and appropriate concepts from music theory and history.

- **MUSI 1183, 1184, 2183, 2184 Class Voice I, II, III, IV**
  - A course designed to enable student to examine music critically, including its development and its function in culture from antiquity to 1750. Course utilizes primary sources and listening selections.

- **MUSI 1301 Fundamentals of Music** 3 Hours (3-0)
  - A preparatory course for music majors, not applicable toward the music degree. MUSI 1301 examines the fundamentals of rhythm, melody, harmony, ear-training, sight singing, and keyboard.

- **MUSI 1302 Music Appreciation** 3 Hours (3-0)
  - A course designed to provide an overview of music from antiquity to the present. Course is designed to enable student to investigate music in the context of social and cultural history.

- **MUSI 1303 Survey of Music Literature** 3 Hours (3-0)
  - A course designed to enable student to examine music critically, including its development and its function in culture from antiquity to 1750. Course utilizes primary sources and listening selections.

- **MUSI 1304 Public School Music Methods and Materials** 3 Hours (3-0)
  - A course which examines techniques and materials for music instruction in kindergarten and grades one through six. Participation includes experience in part singing, playing, listening, voice testing, rhythmic, and creative activities.

- **MUSI 1305 Jazz Improvisation** 3 Hours (0-3)
  - A course designed to enable student to examine music critically, including its development and its function in culture from antiquity to 1750. Course utilizes primary sources and listening selections.

- **MUSI 1306 American Music: History of Country Music** 3 Hours (3-0)
  - A course designed to enable student to trace the development of country music and its function in American culture from Appalachia in the 1920s to present. Credit will be given only once for MUSI 1310.

- **MUSI 1307 American Music: Rock ‘n’ Roll Music** 3 Hours (3-0)
  - A course designed to enable student to examine music critically, including its development and its function in American culture, and society. Credit will be given only once for MUSI 1310.

- **MUSI 1308 American Music: Jazz** 3 Hours (3-0)
  - A course designed to enable student to examine music critically, including its development and its function in American culture, and society. Credit will be given only once for MUSI 1310.

- **MUSI 1309 American Music: Jazz Improvisation** 3 Hours (0-3)
  - A course designed to enable student to examine music critically, including its development and its function in American culture, and society. Credit will be given only once for MUSI 1310.

- **MUSI 1310 American Music: Rock ‘n’ Roll Music** 3 Hours (3-0)
  - A course designed to enable student to examine music critically, including its development and its function in American culture, and society. Credit will be given only once for MUSI 1310.

- **MUSI 1311, 1312, 2311, 2312 Music Theory I, II, III, IV** 3 Hours (3-3)
  - First principles of chord progression and phrase harmonization. A study of more advanced chord structures and their placement within the phrase. The student receives a broad summary of classical harmony and then explores the techniques of the twentieth century. Written exercises, analysis, and correlated keyboard projects are required. Prerequisite: MUSI 1301 or a passing score on placement test.

- **MUSI 1386, 2386 Musical Composition—MIDI I & II** 3 Hours (3-0)
  - These courses employ Musical Instrument Digital Interface (MIDI). Students compose music on the computer; write music from a piano being played; record real time from microphones; sequence, store, and edit sounds; and overdub and mix blocks of sound.

- **OSHT 1301 Introduction to Safety and Health Technology** 3 Hours (3-0)
  - An introduction to the basic concepts of safety and health in an industrial environment. Students will learn and demonstrate proper safety procedures in a variety of industry and classroom settings.

- **OSHT 1320 Energy Industrial Safety** 3 Hours (3-0)
  - An overview for industrial workers of state/federal regulations and guidelines which require industrial safety training. Topics include the 29 C.F.R. 1910, 1926 and National Fire Protection Association (NFPA) 70E standards such as confined space entry, emergency action, lock out/tag out, arc flash, and other work related subjects. Students will describe the basic components of safety, health, and environmental systems as defined by the Occupational Safety and Health Administration; describe Hazardous Waste Operator (HAZWOPER) standards; locate Material Safety Data Sheets (MSDS) and interpret the data; select and don Personal Protective Equipment (PPE); perform lock out/tag out procedures; complete a confined space and hot work permit; select and employ fall protection equipment; and fill out a Job Hazard Analysis (JHA).

- **PHIL 1301 Introduction to Philosophy** 3 Hours (3-0)
  - “Introduction to Philosophy” samples the writings of thinkers who over the past 2500 years have challenged the human intellect with questions about the meaning of existence, the nature of reality, and the validity of knowledge. The course encourages students to re-examine and clarify their own beliefs and values.
PHIL 1304 Introduction to World Religions  
3 Hours (3-0)  
Is a survey of the major belief systems in society today—Judaism, Christianity, Islam, Hinduism, and Buddhism, how they are different from ancient belief systems and how they are influencing new religious movements.

PHIL 1316 History of Christianity  
3 Hours (3-0)  
This course is an historical survey of the development of Christianity and its role in world history, from its origins to the present time covering theological and institutional issues. Course may be taken for either credit or non-credit. Also HIST 1316.

PHIL 2303 Introduction to Logic  
3 Hours (3-0)  
“Introduction to Logic” introduces the students to the nature and methods of correct reasoning; deductive and inductive proof; fallacies; argumentation.

PHIL 2306 Ethics  
3 Hours (3-0)  
This course covers the major classic philosophies of life with consideration of some of the value or “goodness” involved in the moral, religious, aesthetic, and scientific points of view.

PHIL 2321 Philosophy of Religion  
3 Hours (3-0)  
“Philosophy of Religion” is a study of the nature and philosophical implications of religious beliefs, experiences, and practices, and the relation of these to other major human concerns.

PHYS 1401 College Physics I  
4 Hours (3-4)  
This course will enable students to become familiar with classical mechanics, thermodynamics, and wave motion. This course is designed for students planning to study medicine, dentistry, veterinary medicine, optometry, biology, architecture, and the technical disciplines. A knowledge of algebra and elementary trigonometry is needed.

PHYS 1402 College Physics II  
4 Hours (3-4)  
This course will enable students to become proficient in classical mechanics, thermodynamics, and wave motion. Prerequisite: PHYS 1401.

PHYS 1403 Stars and Galaxies  
4 Hours (3-3)  
Study of stars, galaxies, and the universe outside our solar system. Non-majors.

PHYS 1404 Solar System  
4 Hours (3-3)  
Study of the sun and its solar system, including its origin. Non-majors.

PHYS 1415 Physical Science I  
4 Hours (3-3)  
This is a survey course in the physical sciences and scientific methods and is intended for non-science majors. The course introduces topics in physics, chemistry, geology, meteorology, and astronomy with an emphasis on physics topics. A lab is included, and basic mathematics is required.

PHYS 1417 Physical Science II  
4 Hours (3-3)  
This is a continuation of PHYS 1415 with an emphasis on topics in chemistry, geology, meteorology, and astronomy. A lab is included, and basic mathematics is required.

PHYS 2425 University Physics I  
4 Hours (3-3)  
This course will enable students of the physical sciences, engineering, and mathematics to become proficient in classical mechanics and thermodynamics. Prerequisite or Co-requisite: MATH 2413

PHYS 2426 University Physics II  
4 Hours (3-3)  
This course will enable students to become proficient in classical electricity and magnetism, wave motion, and optics. Prerequisite: PHYS 2425 or Co-requisite: MATH 2414

POFI 1204 Computer Fundamentals  
2 Hours (2-1)  
Computer applications specific to business-related software. Emphasizes the concurrent development of office skills and computer knowledge. Students will differentiate among systems, applications, and utility software; format, edit, and enhance a document; and manage files and folders.

POFI 1270 Field Reports and Data Transfer  
2 hours (2-0)  
Essential computer application, writing, and computational skills required by the energy industry for completion of reports. The student will demonstrate computer applications, writing, and computational skills to produce reports used by the energy industry in various field-related activities.

POFI 2401 Word Processing  
4 Hours (3-3)  
Word processing software focusing on business applications. Students will produce documents using word processing applications. Prerequisite: POFI 1227 or instructor permission.

POFI 2431 Desktop Publishing for the Office  
4 Hours (3-3)  
In-depth coverage of desktop publishing terminology, text editing, and use of design principles to create publishing material using word processing desktop publishing features. Emphasis on layout techniques, graphics, and multiple page displays. The student will define desktop publishing terminology; manipulate text and graphics to create a balanced and focused layout; and create flyers, brochures, and multiple-page documents according to specified procedures. Prerequisite: ITSW 1401 or instructor permission.

POFI 2440 Advanced Word Processing  
4 Hours (3-3)  
Advanced techniques in merging, macros, graphics, and desktop publishing. Includes extensive formatting for technical documents. Emphasis on business applications. Students will implement advanced features; import data; and incorporate graphic, collaborative, and special functions to enhance documents. Prerequisite: ITSW 1401.

POFM 1302 Medical Software Applications  
3 Hours (3-0)  
Medical software applications for the management and operation of health care information systems. Students will utilize medical software applications; manage patient database; process billing; maintain schedules; and generate reports.
PSYC 2311 Adult Development
3 Hours (3-0)
This course covers the latter part of the human development process. It focuses on psychosocial, cognitive and environmental factors that shape human behavior from adolescence through the remainder of life. Prerequisite: PSYC 2301 or permission by instructor.

PSYC 2314 Life-Span Growth and Development
3 Hours (3-0)
This course is a survey course dealing with the study of the relationships among physical, emotional, social and mental factors of human growth and development from birth throughout the entire life-span. Emphasis is on scientific research, fundamental issues, and major psychological theories used to explain development. Prerequisite: PSYC 2301 or permission of instructor.

PSYC 2315 Psychology of Adjustment
3 Hours (3-0)
This course is the study of the processes involved in the adjustment of individuals to their personal and social environments. Students will learn about the theories and practices used in the counseling profession with various populations having adjustment problems. Prerequisite: PSYC 2301 or permission of instructor.

PSYC 2319 Social Psychology
3 Hours (3-0)
“Social Psychology” is the study of how the thoughts, feelings, and behaviors of individuals are influenced by the actual, imagined, and implied presence of others. Also SOCI 2326.

PSYT 1372 Relationship Skills
3 Hours (3-0)
The student will be introduced to the study of twenty-first century emotional and sexual intimacy factors within relationships, emphasizing relationship distress, dysfunction and divorce.

PSYT 2331 Abnormal Psychology
3 Hours (3-0)
The study of the theories and processes involved in the dually diagnoses client and treatment of mental disorders. Specify abnormal behavior and its modification; discuss the multi-axial system of diagnosis from the universal diagnostic classification codes; and determine the correct diagnosis given a vignette.

PSYT 2345 Principles of Behavior Modification and it's Management
3 Hours (3-0)
A study of behavior management and cognitive theories and techniques with emphasis on their applications. Summarize behavior management and cognitive theories; and discuss the applications of behavior management and cognitive techniques.

PRTC 1301 Introduction to Petroleum Industry
3 hours (2-2)
An introduction to the various aspects of petroleum industry including equipment, systems, instrumentation, operations, and the various scientific principles. Addresses a variety of petroleum technologies: exploration, drilling, production, transportation, marketing, and chemical processing industries. Students will identify the concepts of exploration, production, refining, marketing, and transportation; and describe the terms and phrases associated with the petroleum industry.

PRTC 1309 Corrosion Basics
3 hours (2-2)
Principles of corrosion such as basic electrochemistry processes. Addresses the deterioration of materials, devices, or pieces of oil field (or other) machinery/equipment. Emphasis on terminology associated with metallic and nonmetallic corrosion. Students will distinguish between the causes of corrosion; state methods by which corrosion can be identified, monitored, and controlled. Communicate potential field problems and recommend the most reliable solutions.

PRTC 1324 Petroleum Instrumentation
3 hours (2-2)
Study of instruments, instrument systems, terminology, process variables, and control coops as used in a petroleum environment. Students will describe the basic instrumentation used in modern process control; identify the basic instruments used with temperature, pressure, levels, flow, and analytical applications; and describe the basic components of a control loop.

PRTC 2371 Petroleum Geology for Non-Geologists
3 hours (2-2)
Earth systems, rocks and minerals, sedimentology and stratigraphy, geologic time and history of Earth, structural geology, folding and faulting, origin, nature, and occurrence of petroleum, formation names, and evolution of the Permian Basin. Also discussed is oil in the Permian Basin - trends, plays, and petroleum systems, surface and subsurface mapping methods, working with logs, sources of data, well-site operations, and formation evaluation. Students will explain geological concepts and processes as related to the exploration and exploitation of hydrocarbons; use a working knowledge of geology and associated terminology to effectively interact with engineers, geologists, landmen, and associated disciplines within the energy industry; utilize and evaluate surface and subsurface maps, well logs, well site and formation reservoir data.

PRTC 2372 Petroleum Data Loading
3 hours (2-2)
Data types and usage, table set ups and definitions for software and server loading of petroleum data, standard formats (ASCII, Excel and direct links) for production, borehole geophysical logs (LAS, LIS), seismic volumes (SEGY, SEGPI), GIS data (SHAPE files) and horizons (DAT) as well as formatting unstructured electronic data (spreadsheets) for proper loading into geologic and geophysical software applications and transferring data between applications. General techniques for quality checking the validity of the data loading will be presented specific to the data type. Also covers exporting formats with data transfer. Public and private data sources will be explored and examples used. Students will install software licenses on both standalone and network systems; describe file system structure and navigation; perform queries; and retrieve and export data. Manage and manipulate data and data files; create and manage a project; import/export cartographic, lease, well information, seismic, log, and spreadsheet data from and to external sources; load and manage general well information, including well logs (both in ASCII and binary format), seismic data and cultural data; transfer data between different software applications; and export and import graphs and reports.

READ 0270 Intermediate Reading I
1 Hour (0-2)
A lab course providing individual instruction in college reading readiness.
TECA 1311 Educating Young Children
3 Hours (3-0-0)
This course is an introduction to the education of the young child, including developmentally appropriate practices and programs, theoretical and historical perspectives, ethical and professional responsibilities, and current issues. The course includes 15 hours of field experience.

TECA 1318 Wellness of the Young Child
3 Hours (3-0-0)
This course is a study of the factors that impact the well-being of the young child including healthy behavior, food, nutrition, fitness and safety practices. The focus is on local and national standards and legal implications of relevant policies and regulations. The course includes 15 hours of field experience.

TECA 1354 Child Growth and Development
3 Hours (3-0-0)
This course is a study of the physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence. The course includes 15 hours of field experience.

TECM 1301 Industrial Mathematics
3 hours (3-0)
Math skills applicable to industrial occupations. Includes fraction and decimal manipulation, measurement, percentage, and problem solving techniques for equations and ratio/proportion applications. Students will convert between decimals and fractions; use measuring tools; calculate ratios and proportions in a technical application; transpose linear equations to solve for unknowns.

TMGT 3302 Business and Economic Statistics
3 Hours (3-0)
An introduction to descriptive statistics and statistical inference for technical managers. Topics include sampling techniques, estimation, hypothesis testing, and simple regression.

TMGT 3303 Managerial Communications
3 Hours (3-0)
A study of the skills necessary to communicate effectively in the workplace. Topics include selection of the proper channel and medium for information delivery, team building, business etiquette, and professionalism. Students will analyze and prepare correspondence, proposals, and reports. Students are required to deliver industry-related oral presentations of each student’s choosing.

TMGT 3305 Organizational Theory and Practice
3 Hours (3-0)
A comprehensive analysis of individual and group behavior in organizations. Its purpose is to provide an understanding of how organizations can be managed more effectively and at the same time enhance the quality of employee work life. Topics include motivation, goal setting and rewards, job design, group dynamics, work stress, power and politics, international aspects of organizations, organizational structure, communication and organizational change and development.

TMGT 3309 Marketing for Managers
3 Hours (3-0)
This course addresses the overview of marketing mix, functions, processes, and impact predictions and assessments. The course includes identification of consumer and organizational needs and the relationship of environmental issues. Students will identify the marketing mix components in relation to market segmentation; explain the environmental factors that influence consumer and organizational decision-making processes; complete a marketing plan; and use assessment methodology to predict impact on organizational performance.

TMGT 3310 Decision Making
3 Hours (3-0)
Analytic and systematic approach to the study of decision making through management science processes and techniques. Topics include quantitative analysis and decision-making relationships, simulation and risk analysis, and decision analysis using various criteria.

TMGT 3311 Human Resources Management
3 Hours (3-0)
This course examines the major trends in human resources management, including problems and issues faced by organizations and individuals in times of change. Responsibilities of the human resources department and the roles that every manager plays, both as a supervisor and as a client of the human resources department, are studied. Topics include human resources forecasting and planning, job design, employee selection, equal employment opportunity laws and judicial rulings, performance appraisal, compensation and benefits, career development, and labor relations.

TMGT 3336 Legal Issues for Managers
3 Hours (3-0)
This course explores the State and federal laws that affect management behavior and organizational practices including contracts, business organizations, employment law, products liability, safety issues, and environmental regulation. Pre-requisite: BUSI 2301 or Instructor Permission

TMGT 3337 Economics for Managers
3 Hours (3-0)
A study of economics and its role in managerial decision making. The course is focused on modern economic thinking and its relevance to business and management. Topics include market structure, production and cost, and public policy towards business. Pre-requisite: ECON 2301, ECON 2302 or instructor permission.

TMGT 3338 Accounting for Managers
3 Hours (3-0)
The use of accounting information by non-financial managers. Emphasis is placed on the interpretation, rather than the construction, of accounting information. The course will examine the technical managerial skills required to sustain and enhance the organizations performance through the accounting and finance processes of reporting, compliance, research, analysis, interpretation and application. Topics such as activity-based costing, cost accounting, break-even and decision analysis, and budgeting and control are covered. Prerequisite: ACCT 2401, ACNT 1403 or instructor permission.

TMGT 3347 Ethics and Corporate Social Responsibility
3 Hours (3-0)
This course will examine the role of ethics and social responsibility in the management of public and private sector organizations. An emphasis will be on contemporary trends in corporate responsibilities with respect to ethical, legal, economic and regulatory conditions in the global marketplace.

TMGT 3352 Entrepreneurship
3 Hours (3-0)
This course presents a comprehensive study of the various factors of production in meeting the needs of consumers in creative and profitable ways. Topics include market segment research, starting a new enterprise, forming an entrepreneurial team, venture capital sources, and formulation of a business plan.
VTHT 1349 Veterinary Pharmacology
3 Hours (3-0)
Fundamentals of pharmacology including recognition, calculation, labeling, packaging, and administration of common veterinary drugs, biologics, and therapeutic agents. Discussion of normal and abnormal responses to these agents. Prerequisites: Permission from director. Must pass THEA, CHEM 1405 and VTHT 1225.

VTHT 1413 Veterinary Anatomy and Physiology
4 Hours (3-3)
Gross anatomy of domestic animals including physiological explanations of how each organ system functions. Prerequisites: Permission from director.

VTHT 1441 Anesthesia and Surgical Assistance
4 Hours (3-4)
In-depth application of surgical, obstetrical, and anesthesia techniques including identification and use of instruments and equipment. Prerequisites: Permission from director. Course fee. This is a required course and can only be taken during the final semester before graduating. Must pass TSI. Co-requisite: VTHT 2161.

VTHT 2160 Clinical III - Veterinary Technician
1 Hour (0-6)
Continuation of 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 profession. Prerequisites: Permission from director, VTHT 1160 and VTHT 1161. Co-requisite: VTHT 1345.

VTHT 2161 Clinical IV - Veterinary Technician
1 Hour (0-6)
Continuation of 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 profession. Prerequisites: Permission from director, VTHT 1160, VTHT 1161 and VTHT 2160. Co-requisite: VTHT 2439.

VTHT 2201 Canine and Feline Clinical Management
2 Hours (1-4)
Survey of feeding, common management practices, and care of canines and felines in a clinical setting. Review of common diseases of canines and felines encountered in the practice of veterinary medicine. Prerequisites: Permission from director, VTHT 1160, and VTHT 1317. Co-requisite: VTHT 1161.

VTHT 2213 Lab Animal Clinical Management
2 Hours (1-3)
Survey of feeding, common management practices, and care of laboratory animals in a clinical setting. Review of common diseases of laboratory animals encountered in the practice of veterinary medicine. Prerequisites: Permission from director. Co-requisite: VTHT 1160.

VTHT 2271 License Preparation
2 Hours (2-0)
Review of the Veterinary Technology Curriculum in preparation for students/graduates to take the National and Texas State board exams. Prerequisite: Permission of director.

VTHT 2323 Veterinary Clinical Pathology I
3 Hours (2-4)
In-depth study of hematology and related chemistries with emphasis on lab procedures. Prerequisites: Permission from director, CHEM 1405, BIOL 2421, VTHT 1205 and VTHT 2201, VTHT 2213, VTHT 2325, VTHT 2421.

VTHT 2325 Large Animal Assisting Techniques
3 Hours (3-4)
Study of basic restraint and proper management, treatment, and medication techniques for farm animals. Prerequisites: Permission from director, VTHT 1160. Co-requisite: VTHT 1161.

VTHT 2366 Practicum
3 Hours (0-25)
Practical general workplace training supported by an individualized learning plan developed by the employer, college, and student. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary. Prerequisite: Permission of director. Course Fee.

VTHT 2421 Veterinary Parasitology
4 Hours (3-3)
Study of parasites common to domestic animals including zoonotic diseases. Prerequisites: Permission from director, VTHT 1205.

VTHT 2435 Advanced Veterinary Anatomy and Physiology
4 Hours (3-3)
Continuation of anatomy of domestic animals including physiological explanations of the functioning of each system. Prerequisites: Permission from director, VTHT 1205 and VTHT 1413.

VTHT 2439 Veterinary Nursing Care
4 Hours (3-4)
A capstone course requiring integration of course work in the field of veterinary technology. The student must demonstrate competencies expected of an entry level registered veterinary technician. Prerequisites: Permission from director. Course fee. This is a required course and can only be taken during the final semester before graduating. Co-requisite: VTHT 2161.

WIND 1300 Introduction to Wind Energy
3 Hours (2-2)
Introduction of the evolution of wind technology, wind farm design, and characteristics of energy sources. Students will describe the evolution of wind turbine technology; identify general wind terminology; and explain air flow characteristics and blade efficiencies.

WIND 2310 Wind Turbine Materials and Electromechanical Equipment
3 Hours (2-2)
Identification and analysis of the components and systems of wind turbine. Students will describe impacts of heat generation on various materials and heat control mechanisms; define the effects of machining and heat treating on metals as they relate to predictable failures; identify components of turbine system; describe types and specifications of fasteners; and identify the effects of torque, lubricants, and hydraulic types of gear boxes.

WIND 2355 Wind Turbine Troubleshooting and Repair
3 hours (2-3)
Operation, maintenance, troubleshooting, and repair of wind turbine electro-mechanical systems. Students will diagnose and repair electromechanical equipment; utilize Supervisor Control and Data Acquisition (SCADA); interpret technical manuals, computer databases, regulatory documents, and maintenance history as a predictive tool; and implement an active/predictive maintenance plan.
**WIND 2359 Wind Power Delivery System**  
3 hours (2-2)  
Components, equipment, and infrastructure used in the production and transmission of electricity as related to wind turbine power. Students will explain the operation of power production; describe power transmission components; identify the operational relationship between the generator and converter; compare the authority of local area, state, and national jurisdiction as related to the electrical grid; and interpret grid schematics.

**WIND 2370 Wind Energy Composites**  
3 hours (2-2)  
Comprehensive concepts of the inspection and repair of composite material used in the wind energy. Emphasizes types of material and causes for deterioration. Includes properties, processes, testing, and assembly of composite material. Also addresses safety procedures. Students will select, install, repair, and remove special composite structures; and identify methods by which corrosion can be monitored and controlled.

**WLDG 1391 Special Topics in Welding Technology**  
3 Hours (3-0)  
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

**WLDG 1437 Introduction to Metallurgy**  
4 Hours (3-2)  
A study of ferrous and nonferrous metals from the ore to the finished product. Emphasis on metal alloys, heat treating, hard surfacing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility. Safe use of Metallurgy and Chemical equipment.

**WLDG 1521 Introduction to Welding Fundamentals**  
5 Hours (3-6)  
An introduction to the fundamentals of equipment used in oxy-acetylene welding (OFW-A) and shielded metal arc welding (SMAW), including welding and cutting safety, basic oxy-acetylene welding and cutting, basic arc welding processes and basic metallurgy. The student will demonstrate safety procedures associated with equipment; and identify ferrous and nonferrous metals.

**WLDG 1525 Introduction to Oxy-Fuel Welding (OFW) and Cutting (OFC)**  
5 Hours (3-6)  
An introduction to OFW and OFC, including history and future in welding, safety, setup and maintenance of OFW and OFC equipment and supplies. The student will describe or explain OFW and OFC safety procedures and identify and classify fuels and filler metals. The student will perform entry-level OFW and OFC operations and select proper equipment and materials. Co-requisite: WLDG 1521.

**WLDG 1530 Introduction to Gas Metal Arc Welding (GMAW)**  
5 Hours (3-6)  
A study of the principles of GMAW setup and use of GMAW equipment, and safe use of tools/equipment. Instruction in various joint designs. The student will describe welding positions with various joint designs on plate; describe safety rules and equipment used; describe the effects of welding parameters in GMAW; and understand safety rules, equipment used, and testing performed by visual inspection. Student will weld various types of structural material and diagnose welding problems and perform visual inspections. Co-requisite: WLDG 1521.

**WLDG 1534 Introduction to Gas Tungsten Arc Welding (GTAW)**  
5 Hours (3-6)  
An introduction to the principles of GTAW, setup/use of GTAW equipment, and safe use of tools and equipment. Welding instruction in various positions and joint designs. The student will describe various joint designs; describe safety rules and equipment; and describe the effects of welding parameters in GTAW; and will weld various structural materials. Requisite: WLDG 1521.

**WLDG 1553 Intermediate Layout and Fabrication**  
5 Hours (3-6)  
A course which covers design and production of shop layout and fabrication. Emphasis placed on symbols, blueprints, and written specifications. The student will identify auxiliary views and calculate steel and pipe dimensions using layout tools and construction templates. The student will identify fittings, weldments, templates, and tools; and interpret orthographic and isometric drawings.

**WLDG 1557 Intermediate Shielded Metal Arc Welding (SMAW)**  
5 Hours (3-6)  
A study of the production of various fillets and groove welds. Preparation of specimens for testing in all test positions. The student will identify principles of arc welding; describe SMAW operations of fillet and groove joints; explain heat treatments of low alloy steels; and explain weld size and profiles. The student will prepare test plates; perform fillet welds in the overhead position; perform Air Carbon Arc Cutting (CAC-A); weld removal; perform bevel groove welds with backing plates in various positions; and demonstrate safe use of tools and equipment. Co-requisite: WLDG 1521.

**WLDG 2331 Advanced Blueprint Interpretation and Cost Analysis**  
3 Hours (3-0)  
An advanced course on interpretation, and blueprint reading with emphasis placed on inspection, cost analysis, and estimating, including instruction in basic drafting skills.

**WLDG 2380 and 2381 Cooperative Work Experience**  
3 Hours (1-0-20)  
The student will be exposed to the application of career-related activities encountered in the Welding area of specialization. The student is required to work a minimum of 20 hours per week in a paid job in a welding trades cooperative position under the supervision of the college and training sponsor.
All degrees with the exception of the AAS require students to complete the Core Curriculum. The Core Curriculum was established by the Texas legislature and the Texas Higher Education Coordinating Board to facilitate the transfer of courses between state supported institutions of higher education in Texas and to provide students with the basis of a liberal education. In order to obtain most degrees from a state supported institution in Texas, a student must complete the Core Curriculum. Thus, once a student has completed the Core Curriculum at one institution, it has been completed at all state supported institutions. Courses are chosen from the following areas. Consult degree programs for specific requirements. The required number of semester credit hours is noted in parenthesis beside each area.

### 010 - Communications (9)
ENGL 1301 and 1302, one course chosen from SPCH 1311, 1315, 1318, or 1321

### 020 - Mathematics (3)
MATH 1314, MATH 1316, MATH 1324, MATH 1414, MATH 2412, MATH 2413, MATH 2414, MATH 2415

### 030 - Natural Sciences (8)
BIOL 1406, BIOL 1407, BIOL 1408, BIOL 1409, BIOL 1424, BIOL 2401, BIOL 2402, BIOL 2421, CHEM 1405, CHEM 1411, CHEM 1412, GEOL 1401, GEOL 1403, GEOL 1404, GEOL 1405, GEOL 1447, PHYS 1401, PHYS 1402, PHYS 1403, PHYS 1404, PHYS 1415, PHYS 1417, PHYS 2425, PHYS 2426

### 040 - Humanities (3)
ENGL 2321, ENGL 2322, ENGL 2323, ENGL 2326, ENGL 2327, ENGL 2328, ENGL 2331, ENGL 2332, ENGL 2333, ENGL 2342, ENGL 2343, FREN 2311, FREN 2312, GERM 2311, GERM 2312, HUMA 1301, HUMA 1302, LATI 2311, LATI 2312, PHIL 1301, PHIL 2303, PHIL 2306, SPAN 2311, SPAN 2312

### 050 - Visual and Performing Arts (3)
ARTS 1301, ARTS 1303, ARTS 1304, DRAM 1310, DRAM 2361, DRAM 2362, DRAM 2366, MUSI 1306, MUSI 1308, MUSI 1309, MUSI 1310

### 060 - 070 - 080 - Social and Behavioral Sciences (15)

**U.S. History (6):** HIST 1301, HIST 1302, HIST 2301

**Government/Political Science (6):** GOVT 2301, GOVT 2302

**Other Social/Behavioral Sciences (3):** ANTH 2302, ANTH 2351, COMM 2300, ECON 2301, ECON 2302, GEOG 1303, HIST 2311, HIST 2312, PSYC 2301, SOCI 1301, SOCI 1306

### 090 - Fitness and Wellness (1)
KINE 1100, KINE 1101, KINE 1102, KINE 1103, KINE 1104, KINE 1105, KINE 1106, KINE 1107, KINE 1108, KINE 1109, KINE 1110, KINE 1113, KINE 1117, KINE 1118, KINE 1119, KINE 1120, KINE 1125, KINE 1126.

**Total:** 42 semester credit hours