BCIS 2390 Systems Analysis & Design
3 Hours (3-0)
Analysis of business information needs and preparation of specifications and requirements for appropriate data system solutions. Includes instruction in information requirements analysis, specification development and writing, prototype evaluation, and network application interfaces.

BIOL 1322 Nutrition & Diet Therapy
3 Hours (3-0)
Study of the chemical, physical, and sensory properties of food; nutritional quality; and food use and diet applications. May not be used as a core science requirement.

BIOL 1406 Biology for Science Majors I
4 Hours (3-3)
This general biology course (first semester) is devoted to principles shared by all organisms. These principles are cell biology, energy, genetics, evolution, and ecology.

BIOL 1407 Biology for Science Majors II
4 Hours (3-3)
This general biology course (second semester) is devoted to particular organisms. Much of the emphasis is on vertebrate biology. The principles studied are diversity, plant biology, animal biology, and behavior. Dissection required. Prerequisite: BIOL 1406.

BIOL 1408 Introduction to Biology I
4 Hours (3-3)
Fundamental principles of living organisms including physical and chemical properties of life, organization, and function. Concepts of reproduction, genetics, and the scientific method are included. This course is suitable as a required lab science for non-biology majors and may not be substituted for BIOL 1406.

BIOL 1409 Introduction to Biology II
4 Hours (3-3)
Fundamental principles of living organisms including evolutionary adaptation and classification. Concepts of evolution, ecology, and the scientific method are included. This course is suitable as a required lab science for non-biology majors and may not be substituted for BIOL 1407. Prerequisite: BIOL 1408

BIOL 1424 Systematic Botany
4 Hours (3-3)
Introduction to the identification, classification, and evolutionary relationships of vascular plants with emphasis on flowering plants. Includes the importance of herbaria, collection techniques, and the construction and use of taxonomic keys.

BIOL 2289 Academic Cooperative
2 Hours (2-3)
An instructional program designed to integrate on-campus study with practical hands-on work experience in the biological sciences/life sciences. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of living organisms and their systems. Prerequisite: BIOL 1406 and 1407 or BIOL 2401 and 2402.

BIOL 2106 Environmental Biology Lab
1 Hour (0-3)
This course is designed to enable students to become proficient in human interaction with and effect upon plant and animal communities. Conservation, pollution, energy, and other contemporary ecological problems. Co-requisite: BIOL 2306.

BIOL 2306 Environmental Biology
3 Hours (3-0)
This course is designed to enable students to become proficient in human interaction with and effect upon plant and animal communities. Conservation, pollution, energy, and other contemporary ecological problems. Co-requisite: BIOL 2106.

BIOL 2401 Anatomy and Physiology I
4 Hours (3-4)
This course is designed to produce student proficiency in body organization, the skeletal system, the muscular system, and the nervous system. Laboratory work will include dissection of a mammal. Dissection required. Prerequisite: BIOL 1406 highly recommended.

BIOL 2402 Anatomy and Physiology II
4 Hours (3-4)
This course is designed to enable students to become proficient in the following biological systems: the circulatory system with special emphasis on the blood and heart, the respiratory system, the digestive system, and the reproductive system. Laboratory work will include dissection of a mammal. Dissection required. Prerequisite: Requires “C” or greater in BIOL 2401.

BIOL 2416 Genetics
4 Hours (3-4)
This course is designed to enable students to become familiar with the following topics in genetics: the physical basis and the chemical basis of heredity, the laws of heredity and variation, mitotic and meiotic cell division, and the study of human diseases that are caused by genetic defects. Prerequisite: BIOL 1406 and 1407 or BIOL 2401 and 1402.

BIOL 2421 Microbiology for Science Majors
4 Hours (3-4)
The study of the morphology, physiology, and taxonomy of representative groups of pathogenic and nonpathogenic microorganisms. Pure cultures of microorganisms grown on selected media are used in learning laboratory techniques. Includes a brief preview of food microbes, public health, and immunology. Prerequisite: BIOL 1406 or BIOL 2401 or CHEM 1405 or CHEM 1411 or permission of instructor.

BMGT 1301 Supervision
3 Hours (3-0)
The role of the supervisor. Includes managerial functions as applied to leadership, counseling, motivation, and human relations skills. Students will explain the role, characteristics, and skills of a supervisor; identify the principles of management at the supervisory level; identify and discuss the human relations skills necessary for supervision; explain motivational techniques; and cite examples of how motivational techniques can be used by a supervisor in a working environment.

BMGT 1305 Communications in Management
3 Hours (3-0)
Basic theory and processes of communication skills necessary for the management of an organization’s workforce. Students will explain the communication process; identify and remedy major communication barriers; describe how communication contributes to effective management.
ENGL 1302 Composition and Literature
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 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.
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 1323 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 develop awareness and sensitivity to diversity related to individual needs of children.

CDEC 2326 Administration of Programs for Children I  
3 Hours (2-4-0)  
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 (2-4-0)  
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 (2-4-0)  
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.
GERM 1412 Elementary German II
4 Hours (3-4)
This is a conversation course conducted primarily in German for the student who has completed German 1411 or its equivalent. Intensive oral-aural drill and classroom interaction will enable students to master the lexical and grammatical structures necessary in carrying on conversations in German. Prerequisite: GERM 1411.

GERM 2311 Intermediate German I
3 Hours (3-2)
This course is conducted in German, and it includes a comprehensive review of German grammar and structure. Through classroom drill, discussion, and composition, the course emphasizes vocabulary expansion and the acquisition of a basic knowledge of German culture and literature. Prerequisite: GERM 1412.

GERM 2312 Intermediate German II
3 Hours (3-1)
A course designed to provide fluency in spoken and written German through intensive grammar presentation and review, through conversational practice, and through composition and reading. The course is conducted in German. Prerequisite: GERM 2311.

GOVT 2301 Federal and State Government I
3 Hours (3-0)
This course is a comparative investigation of federal and state government. It covers the foundation and development of the constitutions of the United States and Texas (Federalism), local governments, political parties, and interest groups.

GOVT 2302 Federal and State Government II
3 Hours (3-0)
In this class students will study the legislative, executive (including the bureaucracy), and judicial systems of the U.S. and Texas, and selected problems of public policy.

GOVT 2304 Introduction to Political Science
3 Hours (3-0)
This course is the introduction to the study of political science as a discipline-political philosophy, the theory and organization of the modern state, comparative political systems, and international relations.

GOVT 2311 Mexican-American Politics
3 Hours (3-0)
This course examines the historical and socio-political culture, and the political experience of Mexican-Americans at the local, state, and national level in the United States.

GOVT 2389 Government Internship
3 Hours (3-4)
This course is designed to integrate on-campus study with practical hands-on experience in government. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of government.

GRPH 1359 Object Oriented Computer Graphics
3 Hours (2-4)
Mastery of the tools and transformation options of an industry standard draw program to create complex illustrations and follow them through to the color output stage. Mastery in the use of basic elements of good layout and design principles and use of the capabilities specific to vector (object oriented) drawing software to manipulate both text and graphics with emphasis on the use of bezier curves. Acquisition of images via scanning and the creative use of clip art is included.

HART 1380, 2380 Cooperative Education
3 Hours (1-0-20)
Career related activities encountered in the student’s area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary. The student is required to work for wages at least 20 hours per week in air conditioning, refrigeration or a related field.

HART 1391 Special Topics in Heating, Air Conditioning, and Refrigeration Technologies/Technicians
3 Hours (2-2)
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

HART 1401 Basic Electricity for HVAC
4 Hours (3-3)
Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation. The class will begin with basic electricity and progress through the study of transformers, power distribution, electric motors, motor controls and circuitry. The student will be introduced to the proper operation of various electrical meters and test instruments. This course, and HART 1407 must be taken first as the prerequisite to all the HART classes.

HART 1407 Refrigeration Principles
4 Hours (3-3)
An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, refrigeration components and safety. The student will learn proper soldering and brazing techniques using oxy-acetylene and air-acetylene. The student will also be introduced to the proper use of hand tools and test instruments required in both service and installation. This course, and HART 1401 must be taken first as the prerequisite for all the other HART courses.

HART 1441 Residential Air Conditioning
4 Hours (3-3)
A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems. This course covers proper recovery, recycle, and reclaim procedures. The student will also study the chemical make-up of refrigerants and how they affect the atmosphere. Replacement refrigerants and the problems they pose will also be covered. The student will gain a working knowledge of the various components used in air conditioning and refrigeration systems. The student will study various refrigerant oils and the type refrigerants they are designed for. Prerequisite: HART 1401 and HART 1407.

HART 1445 Gas and Electric Heating
4 Hours (3-3)
A study of the procedures and principles used in servicing heating systems including gas fired and electric furnaces. The student will be introduced to proper testing and troubleshooting techniques. The class will cover proper wiring, gas controls, thermostats, spark ignition and venting procedures. Prerequisite: HART 1401.
### Core Curriculum Course List

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 1342, 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