AIRP 1451 Instrument Ground School  
4 Hours (3-2)  
A study of the basic instrument radio and navigation fundamentals used in instrument flight. Topics include a description and practical use of navigation systems, instruments, instrument charts, and the Federal Aviation Administration regulations.

AIRP 2333 Aircraft Systems  
3 Hours (3-0)  
Study of the general principles, operation, and application of pneumatic, hydraulic, electrical, fuel, environmental, protection, and warning systems. Emphasis on types of aircraft structures and their control systems.

AIRP 2335 Airline Transport Pilot Ground School  
3 Hours (3-0)  
Provides the flight training and ground instruction required to meet the Federal Aviation Administration regulations for the Airline Transport Pilot Certificate. Emphasis on achieving the competency to pass the written knowledge exam.

AIRP 2337 Commercial Pilot Ground School  
3 Hours (3-0)  
A study of advanced aviation topics to prepare the student for the Federal Aviation Commercial written examination.

AIRP 2339 Commercial Flight  
3 Hours (1-8)  
Flight instruction necessary to qualify for the Commercial pilots license. Student will demonstrate proficiency of all commercial pilot maneuvers to Commercial Pilot Practical Test Standards.

AIRP 2350 Instrument Flight  
3 Hours (1-6)  
Preparation for the completion of the Federal Aviation Administration Instrument Pilot rating. Student will demonstrate mastery of the airplane on full and partial panel instruments, chart reading, flight planning, and ATC radio procedures.

AIRP 2351 Multi-Engine Flight  
3 Hours (1-4)  
Preparation for the multi-engine rating which will be added to a current certificate. Includes explanation and demonstration of all required Federal Aviation Administration normal and emergency operations and procedures.

AIRP 2357 Turbine Aircraft Systems  
3 Hours (2-4)  
Instruction in the systems of specific turbine aircraft. Emphasis on the “glass cockpit”, auxiliary power, aircraft systems, and the first officers’ operational role. Capstone course.

ANTH 2302 Introduction to Archaeology  
3 Hours (3-0)  
This course is an overview of human origins and biocultural adaptations. This is an introduction to methods and theory in the excavation and interpretation of material remains of past cultures.

ANTH 2351 Cultural Anthropology  
3 Hours (3-0)  
The students will study human culture in historical perspective by examining the development of culture as well as comparing present cultures.

ANTH 2389 Internship in Anthropology  
3 Hours (0-7)  
The internship program is designed to give students practical hands-on experience in one of the fields of anthropology. See the department faculty for current semester details.

ANTH 2401 Physical Anthropology  
4 Hours (3-2)  
This course covers the physical characteristics of modern man, fossil man, the higher primates, and ethnic groups, and the development of those characteristics.

ARTC 1313 Digital Publishing I  
3 Hours (2-4)  
The Fundamentals of using digital layout as a primary publishing tool and the basic concepts and terminology associated with typography and page layout.

ARTS 1301 Art Appreciation  
3 Hours (3-0)  
A general education course open to all students. This course includes design principles from the layman’s point of view and critical evaluation of selected works of painting, sculpture, architecture, and industrial design related to everyday life.

ARTS 1303 Art History I  
3 Hours (3-0)  
The student surveys painting, sculpture, architecture, and the decorative arts from prehistoric times to the 14th century. This class requires extensive ability in reading and writing. Prerequisite: Student must have satisfied the TSI readiness requirement in reading.

ARTS 1304 Art History II  
3 Hours (3-0)  
The student surveys painting, sculpture, architecture, and the decorative arts from the 14th century to the present. This class requires extensive ability in reading and writing. Prerequisite: Student must have satisfied the TSI readiness requirement in reading.

ARTS 1311 Design I  
3 Hours (2-4)  
Emphasis is upon two-dimensional design; student experiences include the fundamentals of line, color, form, texture, shape, space, and arrangement.

ARTS 1312 Design II  
3 Hours (2-4)  
Continuation of Arts 1311 with emphasis placed on student study of the three-dimensional concepts. Prerequisite: ARTS 1311.

ARTS 1316 Drawing I  
3 Hours (2-4)  
A beginning course in which the student investigates a variety of media, techniques, and subjects. Students explore perceptual and descriptive possibilities with consideration of drawing as a developmental process and as an end in itself.

ARTS 1317 Drawing II  
3 Hours (2-4)  
Expansion of Arts 1316 that allows the student to stress the expressive and conceptual aspects of drawing including the human figure within a spatial environment. Prerequisite: ARTS 1316.

ARTS 2311 Design III  
3 Hours (2-4)  
An advanced investigation in which students explore the problems of two-dimensional form with emphasis on individual expression.

ARTS 2316 Painting I  
3 Hours (2-4)  
The student explores the potentials of painting media with emphasis on color and composition.
ENGL 1301 Composition and Literature
3 Hours (3-1)
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 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 1303 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 1304 Technical & Business Writing I
3 Hours (3-0)
A course designed 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 1305 Technical & Business Writing II
3 Hours (3-0)
A course designed 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 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 develop a histori- cal 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.
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: GER 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: GER 1412.

Germ 2312 intermediate german II
3 Hours (3-2)
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: GER 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-americian 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.
FREN 1411 Elementary French I
4 Hours (3-4)
This course is for students who have no previous instruction in French. It is designed to acquaint the student with the four basic language skills: listening, speaking, reading, and writing with emphasis on speaking and comprehension. Grammar and vocabulary are presented through intensive drills in class and the Language Laboratory.

FREN 1412 Elementary French II
4 Hours (3-4)
This is a conversation course conducted primarily in French for the students who have completed French 1411 or its equivalent. Intensive oral-aural drill and classroom interaction will enable the student to master the lexical and grammatical structures necessary in carrying on conversations in French. Prerequisite: FREN 1411.

FREN 2303 Introduction to French Literature
3 Hours (3-0)
This course is designed for those students who wish to acquire a basic background in French literature and culture. The course includes the reading of cultural essays, short stories, and poetry that are the basis for class discussion and composition. Practice in speaking, reading, and writing provide for vocabulary expansion. Prerequisite: FREN 2312.

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

FREN 2312 Intermediate French II
3 Hours (3-2)
Continuation of French 2311. Prerequisite: FREN 2311

GAME 1306 Design and Creation of Games
3 Hours (3-1)
Introduction to game and simulation development. Includes analysis of existing applications and creation of a game using an existing game engine. In-depth coverage of the essential elements of game design. Also covers an overview of cultural history of electronic games, survey of the major innovators, and examination of the trends and taboos that motivate game design. Students will be able to summarize the evolution of the electronic game industry, explain essential game and simulation elements, evaluate the strengths and limitations of game and simulation systems, identify programmatic and graphical elements of a development system, and develop a concept document and simple game.

GAME 2341 Game Scripting
3 Hours (3-1)
Scripting languages with emphasis on game concepts and simulations. Students will describe the role of scripts in the development of games, simulations, and other software; and apply appropriate scripting structure and syntax for game and/or simulation software development. Prerequisite: GAME 1306 or permission of instructor.

GEOG 1301 Physical Geography
3 Hours (3-0)
This course is designed to introduce students to the study of the processes driving physical systems on the earth and the interactions between these physical systems with an emphasis on human interaction with the physical environment.

GEOG 1303 World Regional Geography
3 Hours (3-0)
In this course, students will study the major world geographic regions with an emphasis on prevailing social and environmental conditions and developments. Included are emerging conditions and trends and the awareness of diversity. Course content may include one or more regions.

GEOL 1401 Earth Sciences I
4 Hours (3-3)
Survey of physical and historical geology, astronomy, meteorology, oceanography, and related sciences. This course is designed for non-science majors.

GEOL 1403 Physical Geology
4 Hours (3-3)
This course is designed to enable students to become familiar with the geologic features and processes of the earth. This is a foundation course for geology majors, and may also be taken by non-majors for lab science requirement.

GEOL 1404 Historical Geology
4 Hours (3-3)
This course is designed to enable students to become familiar with the geologic history of the earth. This is a foundation course for geology majors and may be taken by non-majors for lab science requirement. Prerequisite: GEOL 1403 or consent of instructor.

GEOL 1405 Environmental Science
4 Hours (3-3)
The study of environmental science is interdisciplinary. During the semester, the student will be presented with scientific information concerning the environment and the historical, social, political, and economic ramifications of environmental conflict. The course is suitable as an elective course in a science curriculum or as a required lab science for someone who is not majoring in science.

GEOL 1447 Meteorology
4 Hours (3-3)
Study of and practical experience in weather analysis, methods of instrumentation and observational meteorology. Lab fee required. This course is designed for non-science majors.

GEOL 2409 Mineralogy
4 Hours (3-3)
Introduction to physical, chemical, crystallographic properties, symmetry, and form, for identification and description of minerals. Chemical and physical processes governing classification origin and occurrence of minerals and rocks. Basic theories and techniques for determining optical constants of minerals using the petrographic microscope. Prerequisites: GEOL 1403.

GERM 1411 Elementary German I
4 Hours (3-4)
This course is for students who have no previous instruction in German. It is designed to acquaint the student with the four basic language skills: listening, speaking, reading, and writing with emphasis on speaking and comprehension. Grammar and vocabulary are presented through intensive drills in class and in the Language Laboratory.
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