CHEM 2389 Academic Cooperative
3 Hours (3-0)
An instructional program designed to integrate on campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena.

CHEM 2401 Analytical Chemistry I
4 Hours (3-4)
Principles and methods of quantitative chemical analysis dealing primarily with volumetric and gravimetric analysis and containing a brief introduction to physical methods. Pre-requisite: CHEM 1411; Co-requisite: CHEM 1412.

CHEM 2423 Organic Chemistry I
4 Hours (3-4)
This course will enable students to become proficient in the reactions and mechanisms of aliphatic and aromatic hydrocarbons, and their derivatives. Prerequisite: CHEM 1412.

CHEM 2425 Organic Chemistry II
4 Hours (3-4)
This course will enable students to become proficient in the reactions and mechanisms of alcohols, phenols, ethers, aldehydes and ketones, carboxylic acids, and amines. Prerequisite: CHEM 2423.

CJLE 1327 Interviewing and Report Writing for Criminal Justice Professions
3 Hours (3-0)
Instruction and skill development in interviewing, note-taking, and report writing in the criminal justice context. Development of skills to conduct investigations by interviewing witnesses, victims, and suspects properly. Organization of information regarding incidents into effective written reports. Students will demonstrate techniques for conducting interviews in support of incident investigations; collect information admissible in court using interview techniques; demonstrate appropriate note-taking skills; and create reports that convey all pertinent information.

CJLE 1333 Traffic Law and Investigation
3 Hours (3-0)
Instruction in the basic principles of traffic control, traffic law enforcement, court procedures, and traffic law. Emphasis on the need for a professional approach in dealing with traffic law violators and the police role in accident investigation and traffic supervision. Students will identify background and underlying principles of the traffic law enforcement effort; describe the legal requirements which govern and control the making and enforcement of criminal laws and traffic laws in particular; explain the procedures to maximize the individual officer’s personal safety during a stop, particularly in a criminal situation; explain the factors which influence the officer and violator during their face-to-face contact; explain the importance of meeting the objectives of a traffic program, i.e. reduction of traffic fatalities and prosecution of traffic offenses; and identify the various enforcement activities that lead to achieving an effective traffic program.

CJSA 1382, 2382 Cooperative Education - Criminal Justice Studies
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 employer, the student combines classroom learning with work experience. Specific learning objectives directly related to a technical discipline guide the student through the paid work experience.

CJSA 1392 Criminal Justice Special Topics
3 Hours (3-0-0)
Topics address recently identified current events, skills or knowledge pertinent to the field of criminal justice. Topics vary with each offering.

CJSA 2323 Criminalistics
3 Hours (3-0)
Theory and practice of crime scene investigation. Topics include report writing, blood and other body fluids, document examination, etchings, casts and molds, glass fractures, use of microscope, and firearms identification. Students will explain the various aspects of theory and practice related to crime scene investigation and list the procedures used in the various types of evidence discovery and examination.

COMM 1129, 1130, 2129, 2130 Publications
1 Hour (0-4)
Working experience in publications. Students are required to be on the staff of at least one of the official college publications and to work under supervision a minimum of four hours weekly.

COMM 1307 Introduction to Mass Communications
3 Hours (3-0)
A survey of American mass communication functions with emphasis on development and current trends of print media, broadcasting, advertising, and public relations. Students are encouraged to become critical media consumers as well as to explore career possibilities in mass communications.

COMM 1318 (ALSO ARTS 2356) Photography I
3 Hours (2-4)
An introductory course for beginners in black and white photography. Students learn basic techniques of camera functions, film development, print processing and design fundamentals.

COMM 1319 (ALSO ARTS 2357) Photography II
3 Hours (2-4)
A continuation of Communication 1318 with emphasis on photography applied to publications. Students work with more complex subjects and techniques in order to communicate their ideas through photographic images. Prerequisite: COMM 1318

COMM 1335 Survey of Radio/Television
3 Hours (3-0)
Study of the development, regulation, economics, social impact, and industry practices in broadcasting and cable communication. Includes non-broadcast television, new technologies, and other communication systems.

COMM 2289 Academic Cooperative
2 Hours (2-2)
An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of communication.
COMM 2389 Academic Cooperative
3 Hours (3-3)
An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of communication.

COMM 2300 Media Literacy and Society
3 Hours (3-0)
This class is designed to criticize and analyze the function, role, and responsibility of the mass media in modern society from the consumer perspective. The course includes the ethical problems and issues facing each media format, with the effect of political, economic, and cultural factors on the operation of the media. Students will study the media influence throughout history on the formation of governments and private sector organizations. The course will explore the enrichment as well as negative consequences that media has brought to society.

COMM 2301 Introduction to Technology and Human Communication
3 Hours (3-0)
A survey of emerging interactive communication technologies and their influence on human communication, including interpersonal, group decision-making, and public and private communication contexts.

COMM 2305 News Editing
3 Hours (3-0)
A course in which copy editing, rewriting, proofreading, headline writing, and layout are emphasized. Lab work on newspaper and/or magazine required. Prerequisite: COMM 2309.

COMM 2311 News Gathering and Writing
3 Hours (3-3)
A study of fundamental news gathering and writing in which the students learn the evaluation of news, news gathering problems, and techniques, writing leads, organizing stories, and overcoming grammatical and structural problems. Lab work on newspaper staff required.

COMM 2315 News Gathering and Writing II
3 Hours (3-0)
A course in which the student learns to write newspaper and magazine feature and editorial material with emphasis on marketing of articles and research methods for article writing. Students study philosophy of news selection, ethics of communication, and responsibility in reporting. Work on the student newspaper or magazine is required. Prerequisite: COMM 2311 or consent of instructor.

COMM 2316 Interviewing
3 Hours (3-0)
A course designed to enable the student to apply communication concepts in selected interview settings with emphasis on dyadic communication, questioning techniques, interview structure, and persuasion.

COMM 2327 Principles of Advertising
3 Hours (3-0)
An overview of the broad field of advertising. This course acquaints students with the role of advertising in the American economy and society. Students study TV, radio, print advertising functions, and support advertising forms such as direct mail, transit, and outdoor media. Students create ads as part of an advertising campaign project.

COMM 2330 Introduction to Public Relations
3 Hours (3-0)
A course exploring the history and development of public relations and presenting the theory and process of public relations—including the planning, implementation, and evaluation of PR campaigns.

COMM 2332 Radio/Television News
3 Hours (3-0)
Preparation and analysis of news styles for the electronic media.

COMM 2339 Writing for Radio, Television, & Film
3 Hours (3-0)
Introduction to basic script formats, terminology, and writing techniques, including the writing of commercials, public service announcements, promotions, news, documentary, and fictional materials.

COSC 1330 Computer Programming
3 Hours (3-1)
An introductory course in computer programming in various programming languages. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes coverage of language syntax, data and file structures, input/output devices, and disks/files.

COSC 1336 Programming Fundamentals I
3 Hours (3-1)
Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy.

COSC 1337 Programming Fundamentals II
3 Hours (3-1)
Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering. Prerequisite: COSC 1336 or instructor permission.

COSC 2330 Advanced Structured Languages
3 Hours (3-1)
Further applications of programming techniques. Topics may include file access methods, data structures and modular programming, program testing and documentation, and other topics not normally covered in an introductory computer programming course. Prerequisite: COSC 1330 or instructor permission.

COSC 2336 Programming Fundamentals III
3 Hours (3-1)
Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis. Prerequisite: COSC 1337 or instructor permission.

CPMT 1445 Computer Systems Maintenance
4 Hours (3-3)
Functions of the components within a computer system. Development of skills in the use of test equipment and maintenance aids. Students will describe the functions of components in a computer system; use computer related test equipment; and demonstrate the effective use of maintenance tools.
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.
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 (3-2)
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: 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.
MATH 0372 Intermediate Algebra
3 Hours (3-0)
This course is intermediate in difficulty between the introductory and college algebra courses and is designed to bridge the gap between the courses. This course will enable students to become proficient in factoring, solving quadratic equations and systems of equations, working with conic sections, and functions Co-requisite: MATH 0170. Prerequisite: Requires a “C” or greater in MATH 0371 and a “P” in MATH 0170 or “P” in MATH 0174-0176 (FLEX Introductory Algebra sequence) or a satisfactory score on an algebra placement test or 230 on THEA. Course fee.

MATH 1314 College Algebra
3 Hours (3-0)
This course is designed to enable students to become proficient in the following algebraic topics: polynomials, rational expressions, exponents, radicals, linear equations and inequalities, quadratic equations, exponential and logarithmic equations, applications systems of equations, and binomial expansion. Prerequisite: Requires a “C” or greater in MATH 0392 and a “P” in MATH 0170 or a “P” in Math 0177-0179 or a satisfactory score on an algebra placement test or 270 on THEA. Course fee.

MATH 1316 Trigonometry
3 Hours (3-0)
This course is designed to enable students to become proficient in trigonometric and inverse trigonometric functions, the solution of triangles, identities, trigonometric equations, applications complex numbers, and logarithms. Prerequisite: Requires a “C” or greater in MATH 1314 or a satisfactory score on an algebra placement test. Course fee.

MATH 1324 Mathematics for Business & Social Sciences I
3 Hours (3-0)
This course is designed to enable students to solve elementary business problems involving the following topics: sets, linear relations and functions, elementary matrix theory, systems of linear equations and inequalities, linear programming by the simplex method, simple and compound interest, annuities, amortization, and bonds. Requires a "B" or greater in MATH 0391 and a "P" in Math 0190 or a satisfactory score on an algebra placement test. Course fee.

MATH 1325 Mathematics for Business & Social Sciences II
3 Hours (3-0)
This course is designed to enable students to learn quantitative methods for analyzing business problems. The topics to be studied are: Limits and continuity, derivatives, graphing and optimization, exponential and logarithmic functions, antiderivatives, integration, applications to management, economics, and business. Prerequisite: Requires a “C” or greater in MATH 1324. Course fee.

MATH 1342 Statistics
3 Hours (3-0)
This course is designed to enable students to learn the introductory techniques of collection, presentation, analysis, and interpretation of data. Correlation methods, analysis of variance, dispersion, sampling, quality control, reliability, mathematical models, and regression analysis are also studied. Students will become proficient in use of computer technology such as Excel. Prerequisite: Requires a “B” or greater in MATH 0391 and a “P” in MATH 0190 or a higher level math course or a satisfactory score on an Algebra placement test. Course fee.

MATH 1350 Fundamentals of Mathematics I
3 Hours (3-0)
Concepts of sets, functions, numeration systems, number theory, and properties of the natural numbers, integers, rational, and real number systems with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek middle grade (4-8) teacher certification. Prerequisite: Requires a “C” or greater in MATH 1314 or equivalent. Course fee.

MATH 1351 Fundamentals of Mathematics II
3 Hours (3-0)
Concepts of geometry, probability, and statistics, as well as applications of the algebraic properties of real numbers to concepts of measurement with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek middle grade (4-8) teacher certification. Prerequisite: Requires a “C” or greater in MATH 1350, or “C” or greater in MATH 1314 or equivalent. Course fee.

MATH 1414 College Algebra
4 Hours (4-0)
This course is designed to enable students to become proficient in the following algebraic topics: polynomials, rational expressions, exponents, radicals, linear equations and inequalities, quadratic equations, exponential and logarithmic equations, systems of equations, and binomial expansion. Prerequisite: Requires a “C” or greater in MATH 0391 and a “P” or a “P” in MATH 0190 or a “P” in Math 0196-0199 or a satisfactory score on an algebra placement test or 270 on THEA. This course is designed for students needing more time to successfully complete College Algebra. Course fee.

MATH 2412 Pre-Calculus
4 Hours (4-0)
This course is designed to enable students to become proficient in applications of algebra and trigonometry to the study of elementary functions and their graphs including polynomial, rational, exponential, logarithmic, and trigonometric functions. Some topics from analytical geometry are discussed. Prerequisite: Requires a “C” or greater in MATH 1314 or a satisfactory score on Trigonometry placement test. Course fee.

MATH 2413 Calculus I
4 Hours (4-0)
This course is designed to enable students to become proficient in introductory analytic geometry, the theory of limits, differential calculus of algebraic and trigonometric functions, applications of differentiation, antiderivatives, and the definite integral. Prerequisite: Requires a “C” or greater in MATH 1316 or a “C” or better in MATH 2412 or a satisfactory score on a precalculus placement test. Course fee.

MATH 2414 Calculus II
4 Hours (4-0)
This course is designed to enable students to become proficient in the differentiation and integration of transcendental functions, techniques of integration, and applications of the definite integral, indeterminate forms, and improper integrals. Prerequisite: Requires a “C” or greater in MATH 2413. Course fee.

MATH 2415 Calculus III
4 Hours (4-0)
This course will enable students to become proficient in indeterminate forms, improper integrals, sequences, series, vectors, and the differential and integral calculus of functions of several variables. Prerequisite: Requires a “C” or greater in MATH 2414. Course fee.
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 1111, KINE 1112, KINE 1113, KINE 1117, KINE 1118, KINE 1119, KINE 1120, KINE 1125, KINE 1126.

**Total : 42 semester credit hours**