

12 Course Descriptions



The first numeral of the Course Number indicates the level of the course. A freshman level course begins with a “1,” and a sophomore level course begins with a “2.” Developmental courses begin with a “0.” The second numeral indicates the semester hour value of the course. The last two numerals are used for departmental sequence. Example: History 1301 is a freshman level course of three semester hours credit.

As part of each course description, there are three numbers within parentheses. The first number indicates the semester hour value of the course, the second number indicates the number of lecture hours per week the class meets, and the third number indicates the number of laboratory hours per week the class meets. Example: (3-2-1) indicates the course has three semester hours credit value, meets for two hours of lecture per week and one laboratory hour per week. Hours met per week are based on semester-length classes.

Palo Alto College has adopted the common course numbering system being used by many of the colleges in Texas. This system allows students to compare courses between colleges and know that those with the same designations are the same course. This affects academic courses only.

Basic academic levels in English, Reading, and Mathematics have been established by Palo Alto College instructional department faculty to ensure that students have the skills to perform effectively in a course. Current Basic Skill Levels are updated in the Schedule of Classes published prior to registration for Fall and Spring semesters. To register for a course at the College, a student must meet the Basic Skill Levels as well as completion of all prerequisite courses identified in this Catalog.

Many courses have lab fees. These include science courses, computer classes, music, physical education, and veterinary technology. These lab fees will be listed in the class schedule and on the student’s invoice.



English Instructor Jennifer Scheidt has been honored for her student-centered teaching. Students work in small groups called “learning communities” while she provides individual attention.

Course Prefix List

ACCT	Accounting	IBUS	International Business
ACNT	Accounting	IDST	Interdisciplinary Studies
AGRI	Agriculture	IEIR	Industrial Electronics
AIRP	Professional Pilot	INCR	Electro-Mechanical Technology
ANTH	Anthropology	INEW	Internetworking (CIS)
ARTC	Commercial and Advertising Art	INFO	Library & Information Studies
ARTS	Art	INTC	Electro-Mechanical Technology
AUMT	Automotive Technology	ITCC	CISCO
AVIM	Aviation	ITMC	Computer Information Systems
BCIS	Computer Info Systems	ITNW	Computer Info Systems
BIOL	Biology	ITSC	Computer Info Systems
BMGT	Business Management/Logistics Management	ITSE	Computer Info Systems
BUSG	Business, General	ITSW	Computer Info Systems
BUSI	Business Administration	ITSY	Information Security
CDEC	Education Aide	KINE	Kinesiology
CETT	Electro-Mechanical Technology	LBRA	Library Assistant
CHEM	Chemistry	LMGT	Business Mgt./Logistics Mgt.
COMM	Communications	MATH	Mathematics
COSC	Computer Science	MRKG	Marketing/Business Management
CRJ	Criminal Justice	MSCI	Military Science
DANC	Dance	MUAP	Music – Individual Instruction
DFTG	Drafting	MUEN	Music – Small Ensemble
DRAM	Drama	MUSI	Music
ECON	Economics	PHED	Physical Education
EDTC	Education Aide	PHTC	Commerical Photography
EECT	Telecomm Technology	PHIL	Philosophy
EEIR	Electro-Mechanical Technology	PHYS	Physics
ELMT	Electro-Mechanical Technology	POFI	Admin Computer Tech
ENGL	English	POFL	Admin Computer Tech
ENGR	Engineering	POFM	Admin Computer Tech
ENGT	Engineering Technology	POFT	Admin Computer Tech
ENTC	Engineering Technology	PSYC	Psychology
ENVR	Environmental Science	PSYT	Industrial & Organ. Psychology
ESOL	English as a Second Language	QCTC	Quality Control Technology
FORS	Forensic Science	RBTC	Robotics Tech
FREN	French	READ	Reading
GEOG	Geography	RTVB	Radio and Television Broadcasting
GEOI	Geology	SDEV	Student Success
GERM	German	SGNL	Sign Language
GOVT	Political Science	SLNG	Sign Language
HALT	Landscape & Hort Science/ Turfgrass & Golf Course Mgt.	SOCI	Sociology
HIST	History	SOCW	Social Work
HMSY	Homeland Security	SPAN	Spanish
HRPO	Human Resources Management	SPCH	Speech
HUMA	Humanities	SPNL	Spanish Language & Literature
HUMD	Human Development	TRVM	Travel & Tourism
		VTHT	Veterinary Technology

ACCT 2301 Principles of Accounting I
(3-3-1)

An introduction to business external financial reporting; designed to create an awareness of the accounting concepts and principles used in preparing the three basic financial statements: the income statement, balance sheet, and statement of cash flows. The course is designed for all business students.

ACCT 2302 Principles of Accounting II
(3-3-1)

Prerequisite: ACCT 2301

An introduction to the determination, development and uses of internal accounting information needed by business management to satisfy customers while continuously controlling and containing costs. The course is designed for all business students.

ACNT 1303 Introduction to Accounting I
(3-3-1)

Prerequisite: None. Recommend MATH 0300 be taken before or concurrently.

A study of analyzing, classifying and recording business transactions in a manual and computerized environment. Emphasis on understanding the complete accounting cycle and preparing financial statements, bank reconciliations, and payroll.

AGRI 1131 Introduction to Agriculture
(1-1-0)

Overview of world agriculture, nature of the industry, resource conservation, and the American agricultural system, including production, distribution, and marketing.

AGRI 1307 Agronomy
(3-2-2)

Principles and practices in the development, production, and management of field crops including plant breeding, plant diseases, soils, insect control, and weed control.

AGRI 1315 Horticulture
(3-2-2)

Structure, growth, and development of horticultural plants from a practical and scientific approach. Environmental effects, basic principles of propagation, greenhouse and outdoor production, nutrition, pruning, chemical control of growth, pest control, and landscaping.

AGRI 1319 Animal Science
(3-2-2)

Scientific animal agriculture. Importance of livestock and meat industries. Selection, reproduction, nutrition, management, and marketing of beef cattle, swine, sheep, goats, and horses.

AGRI 1325 Marketing of Agricultural Products
(3-3-0)

Operations in the movement of agricultural commodities from producer to consumer, including the essential marketing functions of buying, selling, transporting, storing, financing, standardizing, pricing, and risk bearing.

**AGRI 2313 Plant Protection
(3-2-2)**

Principles and practices of controlling and preventing economic loss caused by plant pests. Includes instruction in entomology, plant pathology, weed science, crop science, environmental toxicology, and related environmental protection measures.

**AGRI 2317 Introduction to Agricultural Economics
(3-3-0)**

Fundamental economic principles and their applications to the problems of the industry of agriculture.

**AGRI 2321 Livestock Evaluation I
(3-2-2)**

Selection, evaluation, and classification of livestock and livestock products.

**AGRI 2322 Livestock Evaluation II
(3-2-2)**

Selection, evaluation, and classification of livestock and livestock products.

**AGRI 2330 Wildlife Conservation and Management
(3-3-0)**

Principles and practices used in the production and improvement of wildlife resources. Aesthetic, ecological, and recreational uses of public and private lands.

**AGRI 2377 Feeds and Feeding
(3-3-0)**

Characteristics of feedstuffs used in livestock enterprises. Manual and computer ration formulation procedures and life cycle nutritional management of beef, swine, sheep, dairy, horses, and poultry. Methods of grain, protein supplement and forage processing and evaluation. Commercial and on-the-farm feed mixing methods and feed control laws.

**AIRP 1191 Special Topics Multi-Engine Ground
(1-1-0)**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. A comprehensive course designed for private or commercial pilots who wish to add the multi-engine rating to their pilot certificates. The course examines the light twin-engine airplane operations, systems, performance, engine-out operations, weight and balance, and aerodynamics.

**AIRP 1307 Aviation Meteorology
(3-3-0)**

In-depth coverage of meteorological phenomena affecting aircraft flight. Topics include basic concepts of aviation meteorology in the study of temperature, pressure, moisture, stability, clouds, air masses, fronts, thunderstorms, icing, and fog. Also includes analysis and use of weather data for flight planning.

**AIRP 1313 Introduction to Aviation
(3-3-0)**

A study of the historical development of the aviation industry, including key events in civil, military, and space exploration and an overview of legislation relating to aviation.

**AIRP 1315 Private Pilot Flight
(3-3-0)**

Prerequisite: PLT 1301 or concurrent enrollment.

Flight training to prepare the student for the completion of the Federal Aviation Administration private pilot certification process, including dual and solo flight in the areas of maneuvers and cross-country navigation. A current Second Class FAA Medical Certificate and Student Pilot Certificate are required. **Special Fees apply.**

**AIRP 1317 Private Pilot Ground School
(3-3-0)**

Basic ground school for the Federal Aviation Administration Private Pilot Certificate, providing the student with the necessary aeronautical knowledge that can be used for private pilot certification. Topics include principles of flight, radio procedures, weather, navigation, aerodynamics, and Federal Aviation Administration regulations. This ground school is a foundation course for all students of aviation and is required for subsequent flight training. Fulfills the ground training for the private pilot certificate.

**AIRP 1345 Aviation Safety
(3-3-0)**

A study of the fundamentals essential to the safety of flight. A survey of the aviation industry including decision-making factors, accident reporting, accident investigation, air traffic systems, and aircraft technologies. This course is an introduction to significant elements involved with the safe operation of aircraft, the airport environment, and associated equipment both in flight and on the ground. Consideration is given to examining safety philosophies, programs, research, and the role of various agencies.

**AIRP 1351 Instrument Ground School
(3-3-0)**

A study of basic instrument radio and navigation fundamentals used in instrument flight. Topics include a description and practical use of aerial navigation systems and instruments, charts used for instrument flight, and Federal Aviation Administration regulations. Qualifies as part of a program leading to Federal Aviation Administration Certification. This course covers regulations that apply to flight under instrument conditions, the air traffic system and procedures, navigation and approach procedures, and elements of forecasting weather trends.

**AIRP 1355 Intermediate Flight
(3-1-6)**

Prerequisite: AIRP 1317 and AIRP 1415, and a current and unrestricted second-class medical certificate.

Provides students with flight hours and skills necessary to fulfill solo cross-country hours required for the Federal Aviation Administration Commercial Pilot, single engine land, airplane certificate. **Special Fees Apply.**

**AIRP 1391 Special Topics in Aircraft Pilot and Navigator (Professional)
(3-1-3)**

Prerequisite: AIRP 1317 and AIRP 1415, and a current and unrestricted second-class medical certificate.

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. Dual instruction designed to enhance judgment, coordination and overall flying skills. Instruction includes review of basic airmanship and introduces loops, rolls, precision spins and recovery, wingovers, and snap rolls. **Special Fees Apply.**

**AIRP 1445 Aviation Safety designed for Aviation Security
(4-3-3)**

A study of the fundamentals essential to the safety of flight. A survey of the aviation industry including decision-making factors, accident reporting, accident investigation, air traffic systems, and aircraft technologies.

**AIRP 1447 Human Factors in Aviation designed for Aviation Security
(4-3-3)**

Instruction in flight physiology, the decision-making process, pilot health maintenance, psychological aspects of flight, human behavior as related to the aircraft flight deck, and aeromedical information of significance to flight crews.

**AIRP 2251 Multiengine Flight (Lab)
(2-2-0)**

Prerequisite: AIRP 1317 and AIRP 1415 and AIRP 1191 or concurrent enrollment, and a current and unrestricted second-class medical certificate.

Preparation for the multiengine class rating, which will be added to a current pilot certificate. Includes explanation and demonstration of all required Federal Aviation Administration normal and emergency operations and procedures. Dual flight instruction in twin-engine airplane operations, systems, emergencies, single-engine flight and performance.

Special Fees Apply

**AIRP 2333 Aircraft Systems
(3-3-0)**

Study of the general principles, operations, and application of pneumatic, hydraulic, electrical, fuel, environmental, protection, and warning systems. Emphasis on types of aircraft structures and their control systems. The modern aircraft is rapidly changing as technology advances. This course will introduce the student to the important systems of medium twin and turbine aircraft. Areas of study will include theory and operation of such systems as propulsion, environmental, fuel, and avionics.

**AIRP 2336 Certified Flight Instructor – Airplane (Lab)
(3-2-2)**

Prerequisite: AIRP 1317, AIRP 1415, AIRP 1351, AIRP 1355, AIRP 2337, AIRP 2339, and AIRP 2349 or concurrent enrollment, AIRP 2350, and a current and unrestricted second class medical certificate.

Flight instruction necessary to qualify for the Federal Aviation Administration Certified Flight Instructor-Airplane certificate. Topics include ground and flight instruction.

Special Fees Apply.

**AIRP 2337 Commercial Ground School
(3-3-0)**

A study of advanced aviation topics that can be used for Federal Aviation Administration certification at the commercial pilot level. Includes preparation for the Federal Aviation Administration Commercial Airplane written test. Review of aerodynamics, theory of flight, and Federal Aviation Regulations.

AIRP 2339 Commercial Flight**(3-1-6)**

Prerequisite: AIRP 1317, AIRP 1351, AIRP 1355, AIRP 1315, AIRP 2337 or concurrent enrollment, AIRP 2350, and a current and unrestricted second-class medical certificate.

Flight instruction necessary to qualify for the Federal Aviation Administration Commercial Pilot Certificate. Instruction includes both dual and solo flight training to prepare the student for mastery of all commercial pilot maneuvers. The course is the final phase of flight training in preparation for the Commercial Pilot Certificate with Instrument Rating. **Special Fees apply.**

AIRP 2349 Instructor Ground School**(3-3-0)**

Skill development in the fundamentals of teaching and learning in an aviation-oriented environment. Introduction to the techniques of instruction and analysis of flight maneuvers. Topics include flight instructor responsibilities and Federal Aviation Regulations relating to the instructor rating. Instructional techniques, analysis of maneuvers, and Federal Aviation Regulations are included. This course prepares the student for the flight instructor written examinations: Fundamentals of Instruction and Flight Instructor-Airplane.

AIRP 2350 Instrument Flight (Lab)**(3-1-6)**

Prerequisite: AIRP 1317, AIRP 1351 or concurrent enrollment, AIRP 1355, AIRP 1415, and a current and unrestricted second class medical certificate.

Preparation for completion of the Federal Aviation Administration Instrument Pilot Rating with mastery of all instrument flight procedures. **Special Fees Apply.**

AIRP 2380 Cooperative Education – Aircraft Pilot and Navigator (Professional)**(3-1-20)**

Prerequisite: Consent of department chairperson.

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. **Special Fees Apply.**

ANTH 2346 Introduction to Anthropology**(3-3-0)**

This course is a survey of humankind — of peoples both ancient and modern. It will examine the unity and diversity of cultural patterns including consideration of their political, intellectual, technical, aesthetic, and other social institutions from a cross-cultural and multi-cultural perspective.

ARTC 1302 Digital Imaging I**(3-3-0)**

A studio course which explores drawing and painting through digital imaging. Course will build on the student's experience in Digital Art I with an emphasis on using raster image editing and vector-based image creation software to explore the expressive and conceptual aspects of image making.

**ARTS 1301 Art Appreciation
(3-3-0)**

A lecture course exploring the elements of visual language, their nature, functions and relationships in painting, sculpture, architecture, and industrial design. Focus is on the development and application of critical thinking skills.

**ARTS 1303 Art History Survey I
(3-3-0)**

A lecture course in the history of painting, sculpture, architecture, and other art forms from prehistoric times to the 14th Century.

**ARTS 1304 Art History Survey II
(3-3-0)**

A lecture course in the history of painting, sculpture, architecture, and other art forms from the 14th Century to the present.

**ARTS 1311 Design I
(3-3-3)**

An art studio course in the theory and practice of design. The fundamental principles and elements of design as related to visual structure. Focus is on the development and application of critical thinking skills.

**ARTS 1312 Design II
(3-3-3)**

Prerequisite: ARTS 1311.

An art studio course in the formal elements of design in three dimensions with an emphasis on personal expression.

**ARTS 1316 Drawing I
(3-3-3)**

An art studio course investigating a variety of media, techniques, and subjects exploring perceptual and descriptive possibilities with consideration of drawing and figure construction as a developmental process as well as an end in itself. Focus is on the development and application of critical thinking skills.

**ARTS 1317 Drawing II
(3-3-3)**

Prerequisite: ARTS 1316.

An art studio course offering further investigation of drawing, stressing the expressive and conceptual aspects of drawing and figure construction within a spatial environment.

**ARTS 1325 Drawing and Painting
(3-3-3)**

Prerequisite: None

An art studio course in the basic problems encountered in the process of drawing and painting. Recommended for non-art majors.

ARTS 2316 Painting I
(3-3-3)

Prerequisite: ARTS 1311 and ARTS 1316.

An art studio course which explores the potential of painting media with emphasis on color, composition, dynamics of vision.

ARTS 2317 Painting II
(3-3-3)

Prerequisite: ARTS 2316.

An art studio course which offers a continuation of ARTS 2316 with emphasis on individual expression. With the instructor's approval, this course may be repeated once for an additional 3 hours credit as a study in advanced problems and techniques.

ARTS 2323 Drawing III
(3-3-3)

Prerequisite: ARTS 1317.

An art studio course focusing on problems of structure and action of the human figure and conceptual aspects of drawing.

ARTS 2324 Drawing IV
(3-3-3)

Prerequisite: ARTS 2323.

An art studio course which investigates drawing with emphasis on individual expression. With the instructor's approval, this course may be repeated once for an additional 3 hours credit as a study in advanced problems and techniques.

ARTS 2326 Sculpture I
(3-3-3)

An art studio course which explores three-dimensional concepts of form through a variety of materials and techniques.

ARTS 2327 Sculpture II
(3-3-3)

Prerequisite: ARTS 2326.

An art studio course which offers a continuation of ARTS 2326 with emphasis on individual expression. With the instructor's approval, this course may be repeated once for an additional 3 hours credit as a study in advanced problems and techniques.

ARTS 2331 Graphics I
(3-3-3)

An art studio course investigating the use of the computer as a graphic arts tool with an overview on computer graphics technology. Students will work with a variety of software in common use, a survey of input/output devices, and hardware. Focus is on the development of critical thinking skills with hands-on training of basic drawing, painting, animation and photographic applications.

ARTS 2346 Ceramics I
(3-3-3)

An art studio course exploring various processes of making pottery and ceramic sculpture with an emphasis on handbuilding techniques. Students will be introduced to different methods of glazing and firing.

**ARTS 2347 Ceramics II
(3-3-3)**

Prerequisite: ARTS 2346.

An art studio course with continued exploration of various handbuilding techniques as well as an introduction to the potter's wheel. Emphasis is on increased student proficiency, continued aesthetic development, and self-expression. With the instructor's approval, this course may be repeated once for an additional 3 hours credit as a study in advanced problems and techniques.

**ARTS 2348 Digital Art I
(3-3-3)**

A studio art course that explores the potential of the computer hardware and software medium for its visual, conceptual, and practical uses in the visual arts.

**ARTS 2349 Digital Art II
(3-3-3)**

A studio art course that further explores the potential of the computer hardware and software medium for its visual, conceptual, and practical uses in the visual arts. The specific topic may vary by semester. The course can be repeated once for credit provided that a different topic is being offered.

**ARTS 2356 Photography I
(3-3-3)**

An art studio course introducing the possibilities of photography as an art medium. Technical information will include camera operation, black and white film developing and printing techniques, knowledge of chemistry, and presentation skills. Emphasis will be placed upon study of design aesthetics, history, and contemporary trends as a means of developing an understanding of photographic aesthetics. Students will provide their own cameras.

**ARTS 2357 Photography II
(3-3-3)**

Prerequisite: ARTS 2356.

An art studio course offering further investigation into photographic processes and techniques with emphasis on individual expression with regard to specific application of the photographic process. Students will provide their own cameras. With the instructor's approval, this course may be repeated once for an additional 3 hours credit as a study in advanced problems and techniques.

**ARTS 2372 Studies in Contemporary Art: Chicano Art
(3-3-0)**

A lecture course with a focus on a specific period or art movement within the study of contemporary art: Chicano art. This course traces the historical development of Mexican and Chicano art, from early Pre-Colombian art in Mexico to contemporary Chicano art, and cites the influence of Mexican and Southwest art on Chicano art. Therefore, Studies in Contemporary Art may be repeated for credit when topics vary.

**ARTS 2389 Academic Cooperative in Fine Arts
(3-3-0)**

An instructional program designed to integrate on-campus study with practical hands-on work experience in Fine Arts. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of visual arts.

AVIM 1301 Introduction to Aviation Management**(3-3-0)**

An introduction to small aviation business management. Emphasis on financial marketing, human resources, and administrative and information systems essential for successful business operations.

AVIM 1341 Transportation, Traffic and Air Cargo**(3-3-0)**

A study of the interaction of transportation modes to provide efficient transport of passengers and cargo. Emphasis on managerial definition and solution of problems involved at transition/transfer terminals where compatibly scheduled traffic movement is critical.

AVIM 1380 Cooperative Education – Aviation Management**(3-1-20)**

Prerequisite: Consent of department chairperson

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.

AVIM 1391 Special Topics: Flight Attendant**(3-3-0)**

Prepares the students with strategies for the interview process with the airlines. Also familiarizes the student with common equipment used on airliners. The course also reviews the duties and responsibilities of the flight attendant post 9/11. Exposes the students to the flight environment.

AVIM 2331 Airline Management**(3-3-0)**

An examination of the organization, operation, and management of airlines. Topics include financing, aircraft selection, route feasibility studies, load factors, and marketing.

AVIM 2335 Airport Management**(3-3-0)**

A study of the major functions of airport management including facilities and services, organization, human resources, maintenance, planning and zoning, operations, revenues and expenses, public relations, ecology, and safety.

AVIM 2337 Aviation Law**(3-3-0)**

A study of the historical development of aviation law including in-depth coverage of constitutional, criminal, civil, common, and international law as it relates to aviation activities.

BCIS 1305 Business Computer Applications**(3-3-1)**

An examination of computer terminology, hardware, software, operating systems, and information systems relating to a business environment. The main focus of this course is on business applications of software, including word processing, spreadsheets, databases, presentation graphics, and business-oriented utilization of the Internet.

**BIOL 1322 Nutrition and Diet Therapy
(3-3-0)**

Recommended: One semester of biology and one semester of chemistry.

For allied health majors. The study of food components and their function in the life process including functions, food sources digestion, and metabolism with application to normal and therapeutic human nutritional needs.

**BIOL 1406 General Biology I
(4-3-3)**

An introductory course that includes the following topics: history and philosophy of the science of biology, basic chemistry, energy transformation, physical phenomena, genetics, evolution, and taxonomy. Laboratory exercises will complement lecture topics. Must be followed by BIOL 1407 to fulfill the science requirement. For Science Majors.

**BIOL 1407 General Biology II
(4-3-3)**

Prerequisite: BIOL 1406

A continuation of a two-semester course in biological concepts. This course will emphasize the structure and function of living organisms, comparative animal physiology, evolutionary adaptation, and ecology. The laboratory exercises will complement the lecture topics. For Science Majors.

**BIOL 1408 General Biology I
(4-3-3)**

For non-science majors. Introductory course, history and philosophy of the science of biology, basic chemistry, energetic, physical phenomena, genetics, evolution, taxonomy and survey of the kingdoms. Laboratory exercises will complement lecture topics. Must be followed by 1409 to fulfill the science requirement.

**BIOL 1409 General Biology II
(4-3-3)**

Prerequisite: BIOL 1408.

For non-science majors. This is a continuation of BIOL 1408. Emphasis is on the structure, function, and physiology of animals and flowering plants. Ecology is also discussed. Laboratory exercises will complement the lecture topics.

**BIOL 1411 General Botany
(4-3-3)**

Recommended for science majors. The study of the structure, function and physiology of plant cells, tissues and structures. Included is an evolutionary survey and the life histories of the following groups of organisms: viruses, bacteria, algae, fungi, true mosses, ferns, gymnosperms, angiosperms, and their close relatives. Evolution, genetics, reproduction, and ecology are also discussed. Laboratory exercises will complement the lecture.

**BIOL 1413 General Zoology
(4-3-3)**

Recommended for science majors. The study of the structure, function, and physiology of animal cells, tissues, organs, and organ systems. Included is a survey of the diversity of animal and animal-like organisms. Emphasis is placed on the classification, morphology, physiology, and ecology of all animals. The laboratory exercises will complement the lecture topics.

**BIOL 2106 Environmental Biology Laboratory
(1-0-3)**

Biology 2106 is a laboratory course designed to complement the BIOL 2306 lecture. Selected laboratory studies will relate to topics in the BIOL 2306 lecture.

**BIOL 2306 Environmental Biology
(3-3-0)**

This course is a study of human interrelationships and their interdependence with the environment. Studies will include the impact of human activities on the environment and their effect on natural and human resources. This course includes an evaluation of present and future strategies to preserve a healthy environment. This course may fulfill a science requirement for the Associate of Arts Degree.

**BIOL 2389 Academic Cooperative in the Biological Sciences
(3-1-6)**

Prerequisite: Instructor Approval

Experience working with biologists through a cooperative agreement between the college, employer, and the student. Under the supervision of the college and employer, the student will combine classroom learning and work experience. Academic learning objectives and job-related goals will be assessed.

**BIOL 2401 Human Anatomy and Physiology I
(4-3-3)**

Recommendation: Students with little or no Biology background should take Biology 1408 prior to enrollment in this class.

The study of the structure and function of the cells, tissues, organs, special senses and the skeletal, muscular, and nervous systems. Must be followed by 2402 to complete a science requirement. NOTE: Some sections are web-enhanced. Consult course schedule.

**BIOL 2402 Human Anatomy and Physiology II
(4-3-3)**

Prerequisite: BIOL 2401.

The study of the structure and function of the endocrine, digestive, respiratory, cardiovascular, lymphatic, urinary, and reproductive systems. Human growth, development and genetics are also included. NOTE: Some sections are web-enhanced. Consult course schedule.

**BIOL 2416 Genetics
(4-3-3)**

Prerequisite: One semester of BIOL 1406, 1413 or 2401 and one semester of CHEM 1311 or CHEM 1405

A study of the principles of molecular and classical genetics and the function and transmission of hereditary material. May include population genetics and genetic engineering.

**BIOL 2420 Microbiology and Pathology
(4-3-4)**

Prerequisites: None

This course includes a study of the microbiology and clinical pathology vital to the paramedical health profession, upon which infectious diseases and their prevention and nursing care depend. Special emphasis is placed on disease etiology, epidemiology, and host-parasite interactions.

**BIOL 2421 General Microbiology
(4-3-4)**

Prerequisite: BIOL 1406 and CHEM 1311

This course includes a comprehensive microbiological survey of the Monerans, Protists, Fungi, and viruses. Taxonomy, genetics, physiology, metabolism, and microbial ecology are considered, as well as medical microbiology and immunology.

**BMGT 1301 Supervision
(3-3-0)**

A study of the role of the supervisor. Managerial functions as applied to leadership, counseling, motivation, and human skills are examined.

**BMGT 1303 Principles of Management
(3-3-0)**

Concepts, terminology, principles, theories, and issues in the field of management.

**BMGT 1313 Principles of Purchasing
(3-3-0)**

Prerequisite: LMGT 1319 or Departmental Approval

The purchasing process as it relates to such topics as inventory control, price determination, vendor selection, negotiation techniques and ethical issues. The focus of the course will be on the role and function of purchasing in the Logistics Management process.

**BMGT 1331 Production and Operations Management
(3-3-0)**

Prerequisite: LMGT 1319 or Departmental Approval and MATH 1314

Fundamentals of the various techniques used in the practice of production management to include location, design, and resource allocation. Topics include Demand Forecasting, Quality Processes, Flow Control, Project Management, Facility and Workforce Management using mathematical and statistical techniques.

**BMGT 1345 Communication Skills for Managers: Introduction to Libraries
(3-3-0)**

Comprehensive study of advanced communications skills for managers in business and industry, including advanced techniques in reading, writing, listening, and speaking. Emphasis on clear, concise written and spoken communication in terms of business letters, memos, and reports, as well as oral presentations; techniques for time management; prioritizing reading materials, and comprehending the main ideas and salient details of technical materials, including journals and reports, and other work-related materials. Covers types of information organizations and employers, role of the LTA, automation, history of the book, tools and terminology, basic library philosophy, seeking a job, library vendors, conflict resolution, and dealing with change.

**BMGT 1395 Special Topics in Operations Management and Supervision
(3-3-0)**

Topics address recently identified current event, skill, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

BMGT 2303 Problem-Solving and Decision-Making**(3-3-0)**

Decision-making and problem-solving processes in organizations, utilizing logical and creative problem-solving techniques. Application of theory is provided by experiential activities such as small group discussions, case studies, and the use of other managerial decision aids.

BMGT 2309 Leadership**(3-3-0)**

Concepts of leadership and its relationship to management. Prepares the student with leadership and communication skills needed to inspire and influence.

BMGT 2331 Principles of Quality Management**(3-3-0)**

Prerequisite: BMGT 1303 and MATH 1314

Quality of productivity in organizations. Includes planning for quality throughout the organization, analysis of costs of quality, and employee empowerment.

BMGT 2341 Strategic Management**(3-3-0)**

A study of the strategic management process, including analysis of how organizations develop and implement a strategy for achieving organizational objectives in a changing environment.

BMGT 2347 Critical Thinking and Problem Solving**(3-3-0)**

Instruction in interpreting data for effective problem solving and recommending corrective action with emphasis on a structured approach to critical thinking and problem solving in a term environment.

BMGT 2382 Cooperative Education - Business Administration & Management**(3-1-20)**

Prerequisite: Departmental approval

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.

BMGT 2388 Internship – Business Administration and Management, General**(Logistics Management)****(3-0-18)**

Prerequisites: Completion of all formal course work for the AAS Degree or Departmental Approval.

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. **Professional Liability Fee Required.**

BUSG 2309 Small Business Management**(3-3-0)**

A course on how to start and operate a small business. Topics include facts about a small business, essential management skills, how to prepare a business plan, financial needs, marketing strategies, and legal issues.

**BUSI 1301 Introduction to Business
(3-3-0)**

A general business course emphasizing basic industries, forms of organization, capitalism, alternative economic systems, marketing, finance, management, human resources, pricing, business risks, and the relation of government to business.

**BUSI 1307 Personal Finance
(3-3-0)**

A study of the major elements of effective money management that individuals and families encounter. These include the various aspects of financial planning such as budgeting, managing taxes, making major financial acquisition decisions, adopting effective debt management techniques, insurance alternative considerations and choices, retirement planning through wise investment decisions, and estate preservation.

**BUSI 1311 Principles of Salesmanship
(3-3-0)**

Analysis of the various styles of sales management and advertising techniques used in wholesale and retail selling, preparation of sales canvasses and advertising layouts and distribution media are presented in this course.

**BUSI 2301 Business Law I
(3-3-0)**

Prerequisite: Sophomore Standing

The study of the origin and development of law. Topics included will be torts, criminal law, government regulations, consumerism and environmental law as applied to business. The application of law to contracts, personal property, bailments and sales will be presented.

**BUSI 2302 Business Law II
(3-3-0)**

Prerequisite: BUSI 2301

The application of the law to the business subjects of commercial paper, creditors rights, secured transactions, agency, partnerships, special ventures, corporations, real property and estates will be presented.

**CDEC 1311 Introduction to Early Childhood Education
(3-3-0)**

An introduction to the profession of early childhood education, focusing on developmentally appropriate practices, types of programs, historical perspectives, ethics, and current issues.

**CDEC 1313 Curriculum Resources for Early Childhood Programs
(3-3-0)**

A study of the fundamentals of curriculum design and implementation in developmentally appropriate programs for children.

**CDEC 1354 Child Growth and Development
(3-3-0)**

A study of the principles of child growth and development from conception through adolescence. Focus on physical, cognitive, social, and emotional domains of development.

**CDEC 1356 Emergent Literacy for Early Childhood
(3-3-0)**

An exploration of principles, methods, and materials for teaching young children language and literacy through a play-based integrated curriculum.

**CDEC 1357 Math and Science for Early Childhood
(3-3-0)**

An exploration of principles, methods, and materials for teaching children math and science concepts through discovery and play.

**CDEC 1359 Children with Special Needs
(3-3-0)**

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 2341 The School Aged Child
(3-3-0)**

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.

**CETT 1303 DC Circuits
(3-2-4)**

A study of the fundamentals of direct current including Ohm's law, Kirchhoff's laws and circuit analysis techniques. Emphasis on circuit analysis of resistive networks and DC measurements.

**CETT 1305 AC Circuits
(3-2-4)**

Demonstrate appropriate use of test equipment; identify various sources of electricity in AC circuits; analyze AC circuits using appropriate mathematical formulas; troubleshoot various AC circuits using schematic diagrams; and apply and interpret basic principles of magnetism.

**CETT 1321 Electronic Fabrication
(3-2-4)**

A study of electronic circuit fabrication techniques including printed circuit boards, wire wrapping, bread boarding, and various soldering techniques.

**CETT 1325 Digital Fundamentals
(3-2-4)**

An entry level course in digital electronics covering number systems, binary mathematics, digital codes, logic gates, Boolean algebra, Karnaugh maps, and combinational logic. Emphasis on circuit logic analysis and troubleshooting digital circuits.

**CETT 1333 Introduction to Computers and CAD Operations
(3-2-4)**

An introduction to the fundamental operation of software application packages such as word processing, spreadsheets, and presentation software. Topics include electronic storage, data creation, and retrieval of documentation and data used in technical fields and software applications.

**CHEM 1111 General Chemistry Laboratory I
(1-0-4)**

Prerequisite: MATH 1314 or permission of the instructor.

Corequisite: Concurrent enrollment in CHEM 1311 or permission of the instructor.

Chemistry 1111 is a laboratory course involving principles and practices of identification of basic molecules and selected laboratory studies related to topics in Chemistry 1311.

**CHEM 1112 General Chemistry Laboratory II
(1-0-4)**

Prerequisite: CHEM 1111.

Corequisite: Concurrent enrollment in CHEM 1312 or permission of the instructor.

Chemistry 1112 is a laboratory course involving principles and practice of separation and identification of ions and selected laboratory studies related to topics in Chemistry 1312.

**CHEM 1207 Biological and Chemical Calculations
(2-2-0)**

Chemistry 1207 is a study of the mathematical applications used in chemistry and biology. Topics such as scientific notation, molarity, molality, dosage usage and reconstituting powder media. This course will not fulfill any science or math requirements.

**CHEM 1311 General Chemistry I
(3-3-0)**

Prerequisite: MATH 1314 or permission of the instructor.

Corequisite: Concurrent enrollment in CHEM 1111 or permission of the instructor.

A course in the fundamental principles of inorganic chemistry, modern atomic theory, chemical bonding, states of matter, solutions, stoichiometry and other selected topics. Must be followed by Chemistry 1312 to fulfill a science requirement.

**CHEM 1312 General Chemistry II
(3-3-0)**

Prerequisite: CHEM 1311.

Corequisite: Concurrent enrollment in CHEM 1112 or permission of the instructor.

This course is a continuation of Chemistry 1311. It covers molecular and ionic equilibria, elementary thermodynamics, electrochemistry, nuclear chemistry and an introduction to organic chemistry.

**CHEM 1405 Introductory Chemistry I
(4-3-3)**

Prerequisite: MATH 0302 or its equivalent, or permission of the instructor.

A course for non-science majors and those pursuing a B.S. degree in Nursing. It is an introduction to elementary inorganic chemistry; contains laboratory experiences. Must be followed by Chemistry 1407 to satisfy a science requirement.

CHEM 1407 Introductory Chemistry II**(4-3-3)**

Prerequisite: CHEM 1405 or its equivalent or permission of the instructor.

A course for non-science majors and those pursuing a B.S. degree in Nursing. It covers aspects of organic, nuclear, and biochemistry, and physiological chemistry; contains laboratory experiences.

CHEM 2223 Organic Chemistry Laboratory I**(2-0-4)**

Prerequisite: CHEM 1312 and 1112 or permission of the instructor.

Corequisite: CHEM 2323 or permission of the instructor.

This course is an introduction to organic laboratory techniques such as distillation, crystallization, chromatography, and basic organic reactions.

CHEM 2225 Organic Chemistry Laboratory II**(2-0-4)**

Prerequisite: CHEM 2223.

Corequisite: CHEM 2325 or permission of the instructor.

This course is a continuation of Chemistry 2223 with emphasis on spectroscopy, organic analysis, and major organic reactions.

CHEM 2323 Organic Chemistry I**(3-3-0)**

Prerequisite: CHEM 1312 and 1112 or permission of the instructor.

An introductory course in organic chemistry. This course includes a study of the structure and properties of carbon compounds. The semester covers primarily stereochemistry and the structure and properties of aliphatic and aromatic hydrocarbons.

CHEM 2325 Organic Chemistry II**(3-3-0)**

Prerequisite: CHEM 2323

A continuation of Chemistry 2323. This course studies the chemistry of carboxylic acids, carbonyl compounds, and amines. Also included is a study of the physical means, spectroscopy, used to determine the structure of organic molecules.

COMM 1307 Introduction to Mass Communications**(3-3-0)**

A survey of mass communication. The course provides an overview of the traditional mass media: print, broadcast, film, as well as the related institutions of advertising, public relations, and journalism — their function, structure, support and influence.

COMM 2289 Practicum in Communication (Library Specific)**(2-0-7)**

An instructional program designed to integrate on-campus study with practical hands-on work experience. Carefully planned and closely supervised field work in one or more libraries or media centers in addition to the coursework completed in the classroom. A variety of learning experiences will be included. Group discussion and evaluation of each learning opportunity and an introduction to supervisory techniques and other employer-employee relationships will be the focus of the seminar meetings.

COMM 2305 Editing, Layout and Headline Writing**(3-3-2)**

Prerequisite: COMM 2311.

This course develops an understanding of the editing process. Instruction in copy reading, proofreading, headline writing, typography and newspaper makeup.

COMM 2311 News Gathering and Writing I**(3-3-2)**

Recommended: Keyboarding proficiency.

A course in fundamentals to acquaint students with the newspaper traditions of a free and responsible press. The course includes instruction in proper techniques of information gathering as well as writing the basic news story.

COMM 2315 News Gathering and Writing II**(3-3-2)**

Prerequisite: COMM 2311 and ENGL 1302 with a grade of "C" or better

This course continues the aims and objectives of News Gathering and Writing I, with an emphasis on advanced and in-depth reporting techniques in gathering facts and writing interpretative, investigative and specialized news stories.

COMM 2324 Practicum in Electronic Media**(3-3-1)**

A studio course for understanding and using electronic media techniques through the conceptualizing, gathering, writing, editing, and creating processes. Classes may stress one or more genres, formats, or themes. May be repeated for different topics with departmental approval.

COMM 2327 Principles of Advertising**(3-3-0)**

A study in the fundamentals of advertising, including advertising appeal, copy writing, layout, selection of media and budgeting.

COSC 1300 Computer Literacy**(3-3-1)**

The student is introduced to the effect of computers on society, the history and use of computers, computer applications in various segments of society, programming concepts, and hardware and software terminology. Exact topics may be varied to reflect emerging technological changes. Includes exercises in productivity software tools such as word processing, spreadsheets, database management, presentation graphics, and web browsing. Course **not** intended for Computer Science majors.

COSC 1301 Introduction to Computer and Information Systems**(3-3-1)**

Overview of computer information systems. Introduces computer hardware, software, data, procedures, systems and human resources, and explores their integration and application in business and other segments in society. The fundamentals of computer problem-solving and programming may be discussed and applied. Specific topics may be varied to reflect emerging technological changes. Provides a foundation for further study in computer science or computer information systems.

**COSC 1315 Fundamentals of Programming
(3-3-1)**

Prerequisite: COSC 1301 or ITSC 1301 or COSC 1300.

The student is introduced to the fundamentals of computer programming, using a current programming language. Emphasis is 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 1317 Programming in FORTRAN
(3-3-1)**

Prerequisite: Any of the following: ITSE 1318 or COSC 1318, or COSC 1315.

The student adapts his/her knowledge of fundamental programming techniques to programming in FORTRAN language. Attention to such topics as file access, data structures, program control structures and modular program design as well as syntax of FORTRAN. Students design, write, and test programs.

**COSC 1318 Structured Programming in PASCAL
(3-3-1)**

Prerequisite: COSC 1300 or 1301.

Recommended: ITSE 1318 or COSC 1315.

The student is introduced to structured programming techniques. Fundamental concepts such as data types, data structures and algorithms are emphasized. Special attention is paid to top down, modular design, testing and documentation. Programming language PASCAL is used for exercises. Students design, write and test programs.

**COSC 1320 Programming in "C"
(3-3-1)**

Prerequisite: COSC 1301 and any other computer programming course.

The student is introduced to the use of fundamental programming techniques and related data structures as implemented in the "C" language. Students design, write and test programs in a microcomputer environment.

**COSC 2315 Data Structures
(3-3-1)**

Prerequisite: COSC 1318

The student is introduced to complex data structures such as stacks, queues, heaps, linked lists and trees. Advanced programming techniques such as recursion, sorting, searching and algorithm analysis are also used. A structured programming language (PASCAL) is used for exercises. Students design, write, analyze and test programs that enforce the theoretical part of the course.

**COSC 2330 Advanced Structured Programming
(3-3-1)**

Prerequisite: COSC 1301 and any other computer programming class.

This course will cover advanced preparing techniques not ordinarily found in an introductory programming course. Topics such as object oriented, cross-platform and visual programming will be covered. Students will be expected to develop real-life, stand alone applications in a language such as JAVA or C++. Previous programming experience in a high level structured language required.

**CRIJ 1301 Introduction to Criminal Justice
(3-3-0)**

This course is a survey of the history and philosophy of criminal justice. It will examine ethical considerations, crime definitions by nature and impact, and an overview of the components of the criminal justice system. Included are law enforcement, court systems, prosecution and defense, trial process, and corrections.

**CRIJ 1306 Court Systems and Practices
(3-3-0)**

Prerequisite: CRIJ 1301.

This course studies the judiciary in the criminal justice system. Included are the structure of the court system, right to counsel, pretrial release, grand juries, the adjudication process, types and rules of evidence, and sentencing.

**CRIJ 1307 Crime in America
(3-3-0)**

This course is the study of American crime problems in historical perspective. Included are social and public policy factors affecting crime, impact and crime trends, a multidisciplinary survey of major criminological theories, and the prevention of crime.

**CRIJ 1310 Fundamentals of Criminal Law
(3-3-0)**

Prerequisite: CRIJ 1301.

This course is a study of the nature of criminal law. Topics are: philosophical and historical development, major definitions and concepts, classification of crime, elements of crime and penalties using Texas statutes as illustrations, and criminal responsibility.

**CRIJ 1313 Juvenile Justice System
(3-3-0)**

Prerequisite: CRIJ 1301.

This course is a study of the juvenile justice process. Topics included in this course are specialized juvenile law, the role of juvenile law, of juvenile courts, of police agencies, and of correctional agencies, and the theories of delinquent conduct.

**CRIJ 2301 Community Resources in Corrections
(3-3-0)**

Prerequisite: CRIJ 1301.

This course is an introductory study of the role of the community in corrections, community programs for adults and juveniles, administration of community programs, legal issues and future trends in community treatment.

**CRIJ 2313 Correctional Systems and Practices
(3-3-0)**

Prerequisite: CRIJ 1301.

This course is a study of corrections in the criminal justice system, organization of correctional systems, correctional role, institutional operations, alternatives to institutionalization, treatment and rehabilitation and current and future issues.

CRIJ 2314 Criminal Investigation
(3-3-0)

Prerequisite: CRIJ 1301.

This course explores investigative theory, collection and preservation of evidence, sources of information, interview and interrogation, and uses of forensic sciences case and trial preparation.

CRIJ 2323 Legal Aspects of Law Enforcement
(3-3-0)

Prerequisite: CRIJ 1301.

The course studies police authority, responsibilities, constitutional constraints, laws of arrest, search, and seizure and police liability.

CRIJ 2328 Police Systems and Practices
(3-3-0)

Prerequisite: CRIJ 1301.

The course studies the police profession, organization of law enforcement systems, the police role, police discretion, police community interaction, current and future issues.

DANC 1141 Ballet I
(1-1-2)

Students will learn how to do a ballet warm-up and cool-down and dance combinations. As an activity class, each student should be prepared to participate to the best of his/her ability fully in each class session.

DANC 1142 Ballet II
(1-1-2)

Prerequisite: DANC 1141 or permission of the department.

Continued instruction and participation in ballet technique. Students will build on classical ballet techniques learned in Ballet I including barre, allegro, adagio, center floor combinations.

DANC 1145 Modern Dance I
(1-1-2)

Instruction and participation in Modern Dance. Students in this course will explore movement as an art form that develops grace, poise, and self-expression. Fundamental movement patterns and dance composition will be part of course content.

DANC 1146 Modern Dance II
(1-1-2)

Prerequisite: DANC 1145 or permission of the department.

Continued instruction and participation in Modern Dance. An understanding of time, space energy, and focus in dance performance is emphasized. Students will further develop critical response skills and understanding of composition and aesthetics.

DANC 1149 Ballet Folklorico I
(1-1-2)

Instruction and participation in Ballet Folklorico dance technique. This class introduces students to footwork techniques emphasizing fundamentals of body placement, vocabulary, and regions in Mexico Folklorico Dance. Students will develop dance combination to enhance technical skills, memory and performance qualities.

DANC 1150 Ballet Folklorico II
(1-1-2)

Prerequisite: DANC 1149 or permission of the department.

Continued and more advance instruction and participation in Ballet Folklorico dance technique. Students will review and refine Mexican Folklorico dance skills and their understanding of composition and aesthetics.

DANC 2303 Dance Appreciation
(1-1-2)

This course introduces the student to dance as a universal form of human expression and surveys dance forms as they have developed throughout history and around the world. Comparisons are made between dance and other art forms in cultural context.

DFTG 1329 Electro-Mechanical Drafting
(3-2-2)

A basic course including layout and design of electro-mechanical equipment from engineering notes and sketches. Emphasis on drawing of electronic enclosures, interior hardware, exterior enclosures, detailed and assembly drawings with a parts list, and flat pattern layouts.

DRAM 1120 Rehearsal and Performance
(1-0-3)

A practicum in scene construction, lighting, sound, costuming, publicity, stage properties, acting, and general theater practice. This course may be repeated each semester for a maximum of four semester hours credit. All majors must be enrolled every semester.

DRAM 1310 Theater Appreciation
(3-3-0)

A course designed to provide a survey of the main fields of theater activity, thus providing a background for the appreciation and enjoyment of live theater through an understanding of the elements of theater management, play analysis, acting, directing, and technical theater.

DRAM 1341 Stage Make-up
(3-3-0)

This course examines the design and execution of make-up for the purpose of creating believable characters. A discussion of basic make-up principles and practical experience of make-up application.

DRAM 1351 Acting I
(3-3-0)

The development of basic skills and techniques of acting, including increased sensory awareness, greater self-confidence, stage movement, characterization, and improvisation.

DRAM 1352 Acting II
(3-3-0)

Prerequisite: DRAM 1351.

A continuation of Drama 1351 with special emphasis on the exploration and development of techniques for the creation of a characterization through the preparation and presentation of scenes and monologues.

DRAM 1376 Creative Dramatics**(3-3-0)**

An introductory course which emphasizes the use of creative dramatics as a teaching tool. Scripting and directing children's plays, improvisation, pantomime, puppetry, storytelling, and a brief survey of dramatic literature for children. An excellent course for pre-school and elementary teachers.

DRAM 2336 Voice and Articulation**(3-3-0)**

A practical course designed to develop an understanding of the use and function of the performer's voice as well as provide individual instruction in pronunciation and articulation to facilitate oral communication. (Same as Speech 1342.)

ECON 1301 Introduction to Economics**(3-3-0)**

A study of consumer problems of the individual and of the family in the American economy. Areas of study may include: money and credit management, saving and personal investment, estate planning, wills, buying food and clothing, home ownership or rental, transportation, insurance, taxes, and consumer protection.

ECON 1303 Consumer Economics**(3-3-0)**

A study of consumer problems of the individual and of the family in the American economy. Areas of study may include: money and credit management, saving and personal investment, estate planning, wills, buying food and clothing, home ownership or rental, transportation, insurance, taxes, and consumer protection.

ECON 2301 Principles of Macroeconomics**(3-3-0)**

Economic analysis of the entire economy is studied. The determination of aggregate income and employment, fiscal policy, operation of the monetary system, short-term income fluctuations, long-term income growth, problems of international trade and finance are all reviewed in this course.

ECON 2302 Principles of Microeconomics**(3-3-0)**

Consumer behavior, cost of production, price and output decisions in various output situations are studied. Microeconomic problems and policies related to business, labor, cost-benefit analysis for the public sector, poverty, and discrimination are reviewed.

ECON 2311 Economic Geography**(3-3-0)**

Analytical study of the historical development of particular economic distributions as they relate to social, cultural, political, and physical factors. Includes critical inquiry into the reasons for location of various types of economic activity, production, and marketing. (International component)

**EDTC 1301 Instructional Practices: Educational Processes
(3-3-0)**

A study of the role and responsibilities of the instructional teacher assistant with emphasis on development of professionalism and effective communication strategies with adults. Topics include the various codes of ethics governing the educational field, the issue of confidentiality, learners' rights and responsibilities, and challenges facing schools.

**EDTC 1305 Reading Problems
(3-3-0)**

Introduction of effective methods of identifying and correcting various reading difficulties. Emphasis on the effect of reading difficulties on reading ability and the various techniques recommended for correcting each difficulty and the use of strategic approaches to the teaching of reading. Topics include the importance of direct instruction and motivational learning activities with abundant practice in the act of reading.

**EDTC 1307 Teaching Reading in the Elementary School
(3-3-0)**

Fundamental concepts and principles of reading instruction. Topics include readiness, beginning reading instruction, how literacy emerges, classroom learning environments, word-attach skills, study skills, comprehension, other aspects of the reading program, and examination of varied materials and techniques for teaching reading.

**EDTC 1311 Instructional Practices: Effective Learning Environments
(3-3-0)**

A study of developmentally appropriate strategies in core curriculum areas and the environment. Topics include methods for supporting the lead classroom teacher in planning and implementing educational goals, teamwork skills, and ways of providing and reporting instructional accommodations or modifications.

**EDTC 1313 Introduction to Educational Software and Technology
(3-3-1)**

Introduction to the use of computer hardware and software in the educational setting including opportunities for guided instruction with several software applications.

**EDTC 1317 Developing Positive Student Behavior
(3-3-0)**

A study of techniques to influence the development of positive behavior in the school environment. Topics include development of competencies in establishing and managing routines, promoting self-esteem, teaching negotiation/conflict resolution strategies, and enhancing positive self-direction. Emphasis on implementation of a behavior management plan and the role of the teacher assistant in this process.

**EDTC 1321 Bilingual Education
(3-3-0)**

A course in the core techniques of bilingual education. Topics include awareness of cultural diversity, teaching techniques, material development, and historical and philosophical concepts of bilingual/bicultural education.

**EDTC 1325 Principles and Practices of Multicultural Education
(3-3-0)**

Examination of cultural variations found in our society and reflected in our pluralistic classrooms. Topics include culturally influenced behavior, major cultures, cultural diversity, and the process of intercultural communication and teaching, including differences in lifestyles, communication styles, learning styles, and various sources of stress for diverse cultural groups.

**EDTC 1364 Practicum (or Field Experience) – Teacher Assistant
(3-3-0)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

**EECT 1303 Introduction to Telecommunications
(3-3-0)**

An overview of the telecommunications industry. Topics include the history of the telecommunications industry, terminology, rules and regulations, and industry standards and protocols.

**EECT 1340 Telecommunications Transmission Media (Cabling)
(3-3-1)**

Fundamentals of telecommunications media, including installation, maintenance, and troubleshooting. Topics address media characteristics and connectorization. Students will learn twisted pair, CAT5 and other cabling methods.

**EECT 1391 Special Topics in Electrical, Electronic and Communications
Engineering Technology — Telecomm Product Orientation
(3-3-0)**

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. Specific training in the industry is addressed concerning products to be sold, serviced, or troubleshot. (Credit may be awarded for Vendor Training).

**EECT 2337 Wireless Telephony Systems
(3-3-0)**

Principles of wireless/cellular telephony systems to include call processing, hand-off, site analysis, antenna radiation patterns, commonly used test/maintenance equipment and access protocol.

**EEIR 1301 Math for Electronic Technicians
(3-3-0)**

An applied mathematics course with emphasis on the numbering systems, calculations and problem solving skills needed to solve for electronic circuit parameters. Schematic diagrams and electronic terminology are introduced.

**ELMT 1301 Programmable Logic Controllers
(3-2-4)**

An introduction to programmable logic controllers as used in industrial environments including basic concepts, programming, applications, troubleshooting of ladder logic, and interfacing of equipment.

**ELMT 1305 Basic Fluid Power
(3-2-4)**

Basic fluid power course covering vacuum systems, pneumatic and hydraulic systems, fluid power symbols, operating theory, components, and basic electrical and manual controls.

**ELMT 2333 Industrial Electronics
(3-2-4)**

A study of devices, circuits, and systems primarily used in automated manufacturing and/or process control including computer controls and interfacing between mechanical, electrical, electronic, and computer equipment. Presentation of programming schemes.

**ELMT 2337 Electronic Troubleshooting, Service, and Repair
(3-2-4)**

In-depth coverage of electronic systems, maintenance, troubleshooting, and repair. Topics include symptom identification, proper repair procedures, repair checkout, and preventative maintenance. Emphasis on safety and proper use of test equipment. May be offered as a capstone course.

**ELMT 2339 Advanced Programmable Logic Controllers
(3-2-4)**

Advanced applications of programmable logic controllers as used in industrial environments including concepts of programming, industrial applications, troubleshooting ladder logic, and interfacing to equipment.

**ELMT 2341 Electromechanical Systems
(3-2-4)**

Covers the application of electromechanical systems, including linear and rotational positioning systems, and their associated control systems, and the methods employed to operate them. Students will devise open and closed loop control solutions for a variety of positioning and power transformation problems. Emphasis is placed on programmable control devices and solid state systems.

**ENGL 0101 Basic English Skills Lab
(1-0-1)**

Designed for students currently registered in ENGL 0301, this lab emphasizes writing improvement. Individualized and group settings provide additional instruction and practice to supplement ENGL 0301. This lab course may be repeated three times. Generally, it is optional and not a requirement.

**ENGL 0300 Basic English I
(3-3-1)**

This course is for students who need to improve their basic skills in grammar, capitalization, punctuation, spelling, vocabulary, and sentence structure. The writing process is introduced, and practice is provided in writing, editing, and proofreading. English 0300 cannot be substituted for any part of the regular English curriculum. Students must earn a minimum grade of "C" in English 0300 before being permitted to enroll in English 0301. (3 lecture hours plus 1 laboratory hour per week)

ENGL 0301 Basic English II**(3-3-0)**

Reviews standard English with emphasis on writing the complete essay. In addition, the student will review fundamental grammar, spelling, vocabulary, sentence structure, and punctuation. Laboratory hours in ENGL 0101 may be prescribed. ENGL 0301 cannot be substituted for any part of the regular English curriculum. Students must earn a minimum grade of "C" in ENGL 0301 before being permitted to enroll in ENGL 1301. (3 lecture hours per week)

ENGL 0346 Basic English for Non-Native Speakers of English I**(3-3-2)**

The first of two *bridge* courses to assist non-native speakers of English to transition to college-level classes. The course is for students who need to (1) review basic skills in capitalization, punctuation and spelling; (2) improve sentence and paragraph development; (3) practice basic grammar exercises; (4) increase vocabulary, and (5) learn the differences between spoken and written English. The course meets 5 hours per week with the same instructor, 3 hours in class and 2 hours in the computer laboratory for individualized instruction. Upon completion of the requirements of English 0346, students may enroll in English 0347.

ENGL 0347 Basic English for Non-Native Speakers of English II**(3-3-2)**

The second of two *bridge* courses for non-native speakers of English to assist them to transition to college-level classes. The course is for students who need to (1) increase fluency in writing, (2) develop editing and proofreading skills, (3) improve grammar and (4) increase vocabulary. This class meets 5 hours per week with the same instructor, 3 hours in class and 2 hours in the computer laboratory for individualized instruction. Upon completion of the requirements of English 0347, students may enroll in college-level classes.

ENGL 1301 Freshman Composition I**(3-3-0)**

Emphasizes training in academic reading and writing. Essays written will be based on a variety of purposes and be created in a multitude of forms. Students will study the principles of invention and arrangement and work to develop a sense of audience and purpose in their writing. Students must earn a minimum grade of "C" in ENGL 1301 before enrolling in ENGL 1302. ENG 1301 and 1302 cannot be taken concurrently. (3 lecture hours per week)

ENGL 1302 Freshman Composition II**(3-3-0)**

Prerequisite: ENGL 1301.

An introduction to the study of literature which will include poetry, drama, fiction, and other genres. Students are instructed in and required to write a formal research paper. (3 lecture hours per week)

ENGL 2307 Creative Writing: Poetry and Fiction**(3-3-0)**

Prerequisite: Any literature course.

Designed for students interested in learning the craft of fiction and poetry and enhancing the development of creative writing skills, this course generally is taught as a workshop in imaginative writing. The course may be repeated once for credit. (3 lecture hours per week)

ENGL 2311 Technical Writing**(3-3-0)**

Prerequisite: ENGL 1301 and ENGL 1302.

Aimed at improving students' abilities to gather and to communicate technical information in their major fields of study, this course concentrates on technical papers, scientific reports, and business correspondence. An emphasis is placed on form and method. (3 lecture hours per week)

ENGL 2322 British Literature through the 18th Century**(3-3-0)**

Prerequisite: ENGL 1301 and ENGL 1302.

A survey of British literature from its Anglo-Saxon beginnings through the Restoration and the 18th Century. A research paper or term project is required. (3 lecture hours per week)

ENGL 2323 British Literature in the 19th and 20th Centuries**(3-3-0)**

Prerequisite: ENGL 1301 and ENGL 1302.

A survey of British literature and its major movements and genres from the Romantic Period to the present. A research paper or term project is required. (3 lecture hours per week)

ENGL 2327 Early American Literature**(3-3-0)**

Prerequisite: ENGL 1301 and ENGL 1302.

A survey of American literature and its major movements and genres from the earliest times to the beginning of Realism. A research paper or term project is required. (3 lecture hours per week)

ENGL 2328 Modern American Literature**(3-3-0)**

Prerequisite: ENGL 1301 and ENGL 1302.

A survey of American literature and its major movements and genres from the beginning of Realism to the present. A research paper or term project is required. (3 lecture hours per week)

ENGL 2332 World Literature from Antiquity through the Renaissance**(3-3-0)**

Prerequisites: ENGL 1301 and ENGL 1302.

A study of representative genres and masterpieces of the literature of the world beginning with ancient writings and ending with the Renaissance. A research paper or term project is required. (3 lecture hours per week)

ENGL 2333 Modern World Literature**(3-3-0)**

Prerequisite: ENGL 1301 and ENGL 1302.

A study of the major genres, movements, and representative works from the Neoclassical period to the present. A research paper or term project is required. (3 lecture hours per week)

ENGL 2370 African American Literature
(3-3-0)

Prerequisite: ENGL 1301 and ENGL 1302.

Investigates the range of African American letters beginning with oral songs, stories, and slave narratives. It will examine the major genres and literary movements up to the present. Writing will be required, both informal writing and the formal research paper or project. (3 lecture hours per week)

ENGL 2371 Mexican American Literature
(3-3-0)

Prerequisite: ENGL 1301 and ENGL 1302.

Investigates the prose, poetry, and drama of Mexican American or Chicano literature. It will examine the various literary movements. Writing will be required, both informal writing and the formal research paper or project. (3 lecture hours per week)

ENGL 2373 American Multi-cultural Literature
(3-3-0)

Prerequisite: ENGL 1301 and ENGL 1302.

Investigates the literature of various multi-cultural groups, such as African- American, Asian-American, Mexican-American, Native American, Jewish, Women, and any and all others. Topics vary according to each section offered. A research paper or term project is required. **The course may be repeated once for credit.** (3 lecture hours per week)

ENGL 2375 Literature for Children and Adolescents
(3-3-0)

A survey of the history, development and educational use of literature for children and adolescents. Emphasis is placed on the professional preparation of the elementary teacher, the teaching assistant, and/or the child care worker. A research paper or term project is required.

ENGR 1201 Introduction to Engineering
(2-2-0)

An introduction to engineering as a discipline and a profession. It includes instruction in the application of mathematical and scientific principles to the solution of practical problems for the benefit of society.

ENGR 1304 Engineering Graphics I
(3-2-4)

Prerequisite: MATH 1314, or departmental approval.

Graphical approach to the engineering design process. Includes technical communication, introduction to engineering drawing using standard drafting instruments and computer graphics application.

ENGR 1305 Engineering Graphics II
(3-2-4)

Prerequisite: ENGR 1034.

The course will examine the graphical symbols used in various engineering disciplines which describe and document processes, procedures, operations, facilities, and construction and installation details. AutoCAD will be used extensively to generate computer charts and graphs, computer-aided analysis and design, application of numerical techniques to the solution of engineering problems using high level programming language and numerical computing software will be covered in this course.

ENGR 1371 Engineering Problems**(3-3-0)**

Prerequisite: MATH 1316 (Trigonometry) or departmental approval.

Engineering as a career. Instruments are used to measure and collect data for dimensional analysis. Solution of problems for students of engineering, physics and related technical fields; these problems include statics, dynamics, work, energy, and power, etc.

ENGR 1375 Engineering Drawing**(3-2-4)**

Prerequisite: MATH 1314.

Graphical approach to the engineering design process. Includes geometric construction, orthographic projections, pictorials, etc.

ENGR 1407 Plane Surveying**(4-4-0)**

Engineering principles and practices of plan surveying including leveling, traversing, error adjustments, earthwork and highway curves. Topics include record keeping, distance measurements, angles and elevations, elementary map making, transit methods of topographic map production and field problems related to highway surveying will be covered. Cost estimation will be covered.

ENGR 2301 Statics**(3-3-0)**

Prerequisite: MATH 2413 or concurrent enrollment; PHYS 2425 or concurrent enrollment.

Calculus-based study of force systems, free body diagrams. Engineering applications of equilibrium, centroids, and moments of inertia.

ENGR 2302 Dynamics**(3-3-0)**

Prerequisite: ENGR 2301, MATH 2413 or concurrent enrollment; PHYS 2425.

Kinematics and kinetics, including Newton's Laws, work-energy and impulse-momentum applied to engineering problems involving particles and rigid bodies.

ENGR 2303 Engineering Mechanics - Statics & Dynamics**(3-3-0)**

Prerequisite: PHYS 2425

Combined, single-semester study of statics and dynamics. Calculus-based study of statics and dynamics of rigid bodies; vectors, forces, moments, centroids and moments of inertia; force-mass-acceleration, work-energy, and impulse momentum computation; kinematics and kinetics of particles.

ENGR 2304 Computer Programming for Engineering Applications**(3-2-2)**

Prerequisite: MATH 2413

Introduction to computer programming with emphasis on the applications of engineering problem solutions using contemporary computer languages. Algorithms, data presentation, and program structures are developed and practiced on the computer.

**ENGR 2305 Circuits I for Electrical Engineering
(3-3-1)**

Prerequisite: MATH 2413, Corequisite: MATH 2414

The course introduces the principles of electrical circuits and systems including circuit analysis techniques for DC, transient and AC circuits. Topics include series, parallel, series-parallel circuitry including Ohm's Law, Kirchoff's Laws, batteries, resistance, capacitance, inductance, magnetism, and electro-magnetism. Network analysis techniques include Node-voltage and Mesh-current; Thevenin's, Norton's, maximum power transfer, source transformation, and Superposition theorems applied to electrical circuits are discussed. Electrical test and measurements instruments and their implementation will be covered. Use of computer software PSPICE and MATLAB for circuit analysis will be introduced.

**ENGR 2332 Mechanics of Solids
(3-3-0)**

Prerequisite: ENGR 2301, MATH 2413 or concurrent enrollment;
PHYS 2426.

Internal forces and deformations in solids; stress, strain in elastic and plastic solids; applications to simple engineering problems.

**ENGT 1401 Circuits I for Engineering Technology
(4-3-3)**

Prerequisite: MATH 1314 or equivalent

Principles of direct current electricity and their application to series, parallel, series-parallel circuitry including Ohm's Law, Kirchoff's Laws, batteries, resistance, capacitance, inductance, magnetism, and electro-magnetism. Topics include Node-voltage and Mesh-current analysis; Thevenin's, Norton's, maximum power transfer, source transformation, and Superposition theorems applied to electrical circuits. Electrical test and measurements instruments and their implementation will be covered. Use of computer software PSPICE and MATLAB for circuit analysis will be introduced.

**ENGT 1402 Circuits II for Engineering Technology
(4-3-3)**

Prerequisite: ENGT 1401, MATH 2412 or MATH 1314 or equivalent

Principles of alternating current circuits and their application to series, parallel, series-parallel circuitry including Ohm's Law, Kirchoff's Laws, batteries, resistance, capacitance, inductance, and magnetism. Topics include Node-voltage and Mesh-current analysis; Thevenin's, Norton's, maximum power transfer, source transformation, and Superposition theorems applied to electrical circuits. Electrical test and measurements instruments and their implementation will be covered. Use of computer software PSPICE and MATLAB for circuit analysis will be introduced.

**ENGT 1407 Digital Fundamentals
(4-3-3)**

Analysis, design and simulation of basic digital circuits and their application including basic gates, arithmetic circuits, counters, data-handling circuits, and memory devices. Topics include combinational and sequential logic circuits, Boolean algebra, and circuit reduction techniques. Programmable logic devices, integrated circuits and standard test equipment will be used in the design, analysis, and test of digital circuits and systems.

ENGT 1409 AC/DC Circuits for Engineering Technology**(4-3-2)**

Principles of direct current electricity and their application to series, parallel, series-parallel circuitry including Ohm's Law, Kirchoff's Laws, batteries, resistance, capacitance, inductance, magnetism, and networks. Topics in circuit analysis techniques include Node-voltage and Mesh-current analysis as well as transformers, circuit resonance, and phasors will be discussed. Electrical test and measurements instruments will be covered. Use of computer software PSPICE and MATLAB for circuit analysis will be introduced.

ENGT 2304 Materials and Methods for Engineering Technology**(3-3-0)**

Topics include the study of properties of building materials, methods and equipment used in the completion of construction projects. Building specifications, selection of materials, cost estimations, quality control, assembly operations, and planning and preparation of projects will be covered.

ENGT 2307 Engineering Materials for Engineering Technology**(3-3-1)**

A study of structure and property relationships of materials, including metals, ceramics, and polymers. Topics include behavior of material with emphasis on the manufacturing process and non-destruct testing principles. Selection of metals and principles of hardening and machining will be discussed.

ENGT 2310 Introduction to Manufacturing Processes**(3-3-0)**

The course will concentrate on manufacturing processes for metallic materials. Machines and technologies used for casting, forming, fabricating, welding, heat treating, process control, injection molding will be described and discussed.

ENTC 1347 Safety and Ergonomics**(3-2-3)**

Occupational Safety and Health Administration (OSHA) safety guidelines including electrical, chemical, and hazardous material safety. Ergonomic considerations to include repetitive motion, plant layout, and machine design. Industrial safety awareness, accident cost and prevention, and workman's compensation issues.

ENTC 1349 Reliability and Maintainability**(3-2-4)**

A study of equipment reliability and maintainability to improve the efficiency of operations including utilizing the latest equipment and techniques to implement effective prevention and predictive maintenance programs.

ENVR 1101 Environmental Science I Lab**(1-0-3)**

A general science course that serves as an introduction to the disciplines and methods involved in environmental studies from a natural science perspective. Topics will include principles of the scientific method, environmental philosophy and ethics, ecosystems, population dynamics, soil systems, hydrology, air, water, and soil pollution, land conservation, and public environmental policy. Topics also will include hazardous wastes and chemicals in the environment, basic toxicology, human health risk assessment, municipal waste disposal, energy sources, environmental regulation, geological and biological resources, and sustainability. The three-hour laboratory will provide opportunities to gather and analyze ecological data, learn techniques for environmental auditing, conduct local field trips, and use specialized equipment for basic environmental investigations.

ENVR 1102 Environmental Science II Lab**(1-0-3)**

A general science course that serves as an introduction to the disciplines and methods involved in environmental studies from a natural science perspective. Topics will include principles of the scientific method, environmental philosophy and ethics, ecosystems, population dynamics, soil systems, hydrology, air, water, and soil pollution, land conservation, and public environmental policy. Topics also will include hazardous wastes and chemicals in the environment, basic toxicology, human health risk assessment, municipal waste disposal, energy sources, environmental regulation, geological and biological resources, and sustainability. The three-hour laboratory will provide opportunities to gather and analyze ecological data, learn techniques for environmental auditing, conduct local field trips, and use specialized equipment for basic environmental investigations.

ENVR 1301 Environmental Science I**(3-3-0)**

A general science course that serves as an introduction to the disciplines and methods involved in environmental studies from a natural science perspective. Topics will include principles of the scientific method, environmental philosophy and ethics, ecosystems, population dynamics, soil systems, hydrology, air, water, and soil pollution, land conservation, and public environmental policy. Topics also will include hazardous wastes and chemicals in the environment, basic toxicology, human health risk assessment, municipal waste disposal, energy sources, environmental regulation, geological and biological resources, and sustainability. The three-hour laboratory will provide opportunities to gather and analyze ecological data, learn techniques for environmental auditing, conduct local field trips, and use specialized equipment for basic environmental investigations.

ENVR 1302 Environmental Science II**(3-3-0)**

Prerequisite: ENVR 1301

A continuation of ENVR 1301. A general science course that serves as an introduction to the disciplines and methods involved in environmental studies from a natural science perspective. Topics will include principles of the scientific method; environmental philosophy and ethics; ecosystems; population dynamics; soil systems; hydrology; air, water, and soil pollution; land conservation; and public environmental policy. Topics also will include hazardous wastes and chemicals in the environment, basic toxicology, human health risk assessment, municipal waste disposal, energy sources, environmental regulation, geological and biological resources, and sustainability. The three-hour laboratory will provide opportunities to gather and analyze ecological data, learn techniques for environmental auditing, conduct local field trips, and use specialized equipment for basic environmental investigations.

ESOL Bridge Courses: See ENGL 0346 and ENGL 0347

**ESOL 0310 Writing I
(3-3-0)**

Level I instruction in writing, which focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course provides an introduction to learning the writing process, including revision. Placement in this course is based on assessment as well as advisement.

**ESOL 0311 Conversational English I
(3-3-0)**

Level I instruction in conversational English, which focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course includes small group interaction and cooperative learning activities. Placement in this course is based on assessment as well as advisement.

**ESOL 0312 Reading and Vocabulary I
(3-3-0)**

Level I instruction in reading and vocabulary focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course emphasizes enhancing critical thinking skills. Placement in this course is based on assessment as well as advisement.

**ESOL 0313 Grammar/Mechanics I
(3-3-0)**

Level I instruction in grammar focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. Placement in this course is based on assessment as well as advisement.

**ESOL 0320 Writing II
(3-3-0)**

Level II instruction in writing focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course provides an introduction to learning the writing process, including revision. This course is for those students who have completed Level I or whose placement test evaluation indicates Level II.

**ESOL 0321 Conversational English II
(3-3-0)**

Level II instruction in conversational English focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course includes small group interaction and cooperative learning activities. This course is for those students who have completed Level I or whose placement test assessment indicates Level II.

**ESOL 0322 Reading and Vocabulary II
(3-3-0)**

Level II instruction in reading and vocabulary focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course emphasizes enhancing critical thinking skills. This course is for those students who have completed Level I or whose placement test assessment indicates Level II.

**ESOL 0323 Grammar/Mechanics II
(3-3-0)**

Level II instruction in grammar focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course is based on mastery learning, and students progress at their own pace. This course is for those students who have completed Level I or whose placement test assessment indicates Level II.

**ESOL 0330 Writing III
(3-3-0)**

Level III instruction in writing focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. This course provides an introduction to learning the writing process, including revision. This course is for those students who have completed Level II or whose placement test assessment indicates Level III.

**ESOL 0331 Conversational English III
(3-3-0)**

Level III instruction in conversational English focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course includes small group interaction and cooperative learning activities. This course is for those students who have completed Level II or whose placement test assessment indicates Level III.

**ESOL 0332 Reading and Vocabulary III
(3-3-0)**

Level III instruction in reading and vocabulary focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course emphasizes enhancing critical thinking skills. The course is for those students who have completed Level II or whose placement test assessment indicates Level III.

**ESOL 0333 Grammar/Mechanics III
(3-3-0)**

Level III instruction in grammar focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course is based on mastery learning, and students progress at their own pace. This course is for those students who have completed Level II or whose placement test assessment indicates Level III.

**ESOL 0340 Writing IV
(3-3-0)**

Level IV instruction in writing focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course provides opportunities for students to further develop their knowledge and use of the writing process, including revision. This course is for those students who have completed Level III or whose placement test assessment indicates Level IV.

**ESOL 0341 Conversational English IV
(3-3-0)**

Level IV instruction in conversational English focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course includes small group interaction and cooperative learning activities. This course is for those students who have completed Level III or whose placement test assessment indicates Level IV.

**ESOL 0342 Reading and Vocabulary IV
(3-3-0)**

Level IV instruction in reading and vocabulary focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course emphasizes enhancing critical thinking skills. This course is for those students who have completed Level III or whose placement test assessment indicates Level IV.

**ESOL 0343 Grammar/Mechanics IV
(3-3-0)**

Level IV instruction in grammar focuses on the students' prior experiences and knowledge, as well as appropriate contexts and themes. The course is based on mastery learning, and students progress at their own pace. This course is for those students who have completed Level III or whose placement test assessment indicates Level IV.

**ESOL 0350 Special Topics
(3-3-0)**

This course emphasizes customized instruction for mastery-based, self-paced learning. The content for the courses is determined by the students' proficiency in one or more of the following areas: conversational English, listening comprehension, reading, vocabulary building, writing, and/or grammar. Placement into this course is based on assessment and advisement.

**ESOL 0355 Special Topics
(3-3-0)**

This course emphasizes customized instruction for mastery-based, self-paced learning. The content for the courses is determined by the students' proficiency in one or more of the following areas: conversational English, listening comprehension, reading, vocabulary building, writing, and/or grammar. Placement into this course is based on assessment and advisement.

**ESOL 0360 English Skills: Listening Comprehension
(3-3-2)**

This course, one component of an immersion approach to English language learning for non-native speakers, provides practice in listening for information using contexts and themes which draw on students' prior experiences and knowledge. Placement into the course is based on assessment.

**ESOL 0365 English Skills: Reading and Vocabulary
(3-3-2)**

This course, one component of an immersion approach to English language learning for non-native speakers, enhances students' analytical and critical thinking skills by using contexts and themes which draw on their prior experiences and knowledge. A variety of readings provide students with opportunities for improving comprehension, building vocabulary, making inferences, finding the main idea, scanning, and summarizing. Placement into the course is based on assessment.

**ESOL 0370 English Skills: Writing Grammar
(3-3-2)**

In this course, one component of an immersion approach to English language learning for non-native speakers, students use contexts and themes which draw on their prior experiences and knowledge to learn to express themselves in written language. Students are introduced to the writing process and work on sentence structure, paragraph development, rhetorical organization and mechanical skills. Placement into the course is based on assessment.

**ESOL 0375 English Skills: Integrated Writing
(3-3-2)**

In this course, the capstone course in an immersion approach to English language learning for non-native speakers, students use contexts and themes which draw on their prior experiences and knowledge to learn to express themselves in written language. Oral communication skills and reading/vocabulary skills are integrated into the teaching of writing. Placement into the course is based on assessment.

ESOL Bridge Courses: See ENGL 0346 and ENGL 0347

**FORS 2440 Forensic Science I
(4-3-4)**

Prerequisite: CHEM 1311, 111, 1312 & 1112

This course provides an introduction to crime scene investigation, evidence gathering and analysis. Students will learn the methods, procedures, and techniques of gathering and preserving crime scene evidence; and the laboratory techniques about how to scientifically analyze the evidence. Basic analytical techniques learned in the lab include trace analysis of hair and fiber, stain analysis, epithelial cell analysis, latent fingerprint analysis, DNA sequencing and more. (Pending THECB approval.)

**FORS 2450 Forensic Science II
(4-2-6)**

Prerequisite: FORS 2440

This course is a continuation of FORS 2440 but will introduce other forensic sciences including forensic psychology with references to criminal profiling. At the conclusion of the semester, student forensic teams will be required to conduct a mock crime scene investigation and subsequent analysis of the evidence gathered at the crime scene utilizing the techniques learned in the classroom and the laboratory. (Pending THECB approval.)

**FREN 1411 Elementary French I
(4-3-2)**

An introduction to the four basic skills: listening comprehension, oral production, reading, and writing. Pronunciation, grammar, and practical vocabulary will be introduced. Language laboratory required.

**FREN 1412 Elementary French II
(4-3-2)**

Prerequisite: FREN 1411 or Departmental approval.

A continuation of French 1411. Language laboratory required.

FREN 2311 Intermediate French I**(3-3-0)**

Prerequisite: FREN 1412 or placement test.

Review of French grammar and the expansion of basic language skills.

FREN 2312 Intermediate French II**(3-3-0)**

Prerequisite: FREN 2311 or placement test.

The application of the French language in conversation, composition, and readings.

GEOG 1301 Physical Geography**(3-3-0)**

An introduction to the elements of physical geography. Includes the use and interpretation of maps and globes, the study of landforms, climate, weather, soils, and earth-sun relationships, with a focus on the result of these processes and their relationship to human activity.

GEOG 1303 World Geography**(3-3-0)**

A study of the similarities and differences of the major world regions with a focus on culture and human behavior.

GEOL 1305 Environmental Geology**(3-3-3)**

The earth as a habitat. Interrelationships between humans and the environment. Geologic factors in urban and regional land use planning.

GEOL 1401 Earth Sciences I**(4-3-3)**

An introduction to principles and methods of Earth Science. Nature of the earth and its settings in space as revealed by a survey of Physical and Environmental Geology, Meteorology, and Oceanography. Designed for students not majoring in science or Engineering. Occasional field trips may be arranged. Must be taken with GEOL 1402 to fulfill the science requirement.

GEOL 1402 Earth Sciences II**(4-3-3)**

A survey of Astronomy, the effects of physical processes operating on the earth's surface (Geomorphology), and of earth history as interpreted from fossils and rocks (Historical Geology). Studies will include the significance to society of the earth sciences including environmental problems and natural resource exploration and utilization designed for students not majoring in science or Engineering. Occasional field trips may be arranged. Must be taken with GEOL 1401 or GEOL 1446 to fulfill the science requirement.

GEOL 1403 Physical Geology**(4-3-3)**

The nature and properties of rocks and minerals; processes by which they are formed, altered and transported. Nature and development of the landscape. Laboratory work includes the study of minerals, rocks and topographic maps. Occasional field trips may be arranged. Both 1403 and 1404 must be taken to fulfill the science requirement.

GEOL 1404 Historical Geology**(4-3-3)**

Prerequisite: GEOL 1403 or permission of instructor

History of earth and development of life relative to geological time. Laboratory exercises will complement the lecture topics. Occasional field trips may be arranged. Both 1403 and 1404 must be taken to fulfill the science requirement.

GEOL 1445 Oceanography**(4-3-3)**

Methods and principles of Oceanography. Geological, physical, chemical and biological studies of the earth's oceans. Origin and continuing evolution of the ocean basins, air-sea and land-sea interactions, and life in the oceans. Field trips may be arranged.

GEOL 1446 Astronomy**(4-3-3)**

A survey of Astronomy including the history of Astronomy, telescopes, celestial mechanics, time and the seasons, the sun and the planets, stars and stellar evolution, nebula, galaxies, and cosmology. Field trips may be arranged.

GERM 1411 Elementary German I**(4-3-2)**

For students with little or no knowledge of German. An introduction to the four basic skills: listening comprehension, oral production, reading, and writing. Pronunciation, grammar, and practical vocabulary will be introduced. Language laboratory required.

GERM 1412 Elementary German II**(4-3-2)**

Prerequisite: GERM 1411 or Departmental approval.

A continuation of German 1411. Language laboratory required.

GERM 2311 Intermediate German I**(3-3-0)**

Prerequisite: GERM 1412 or placement test.

Review of German grammar and the expansion of basic skills.

GERM 2312 Intermediate German II**(3-3-0)**

Prerequisite: GERM 2311 or placement test.

The application of the German language in conversation, composition, and readings.

GOVT 2305 National Government**(3-3-0)**

Government 2305 is a general survey course in American government covering the theories and concepts of government, the United States Constitution, politics, public opinion, political parties, human rights, and the functions of national, state and local government.

GOVT 2306 State Government**(3-3-0)**

Government 2306 is a general survey of the United States and Texas Constitutions, federalism, citizenship, voting and local governments with an emphasis on Texas government. Credit in both Government 2305 and 2306 is necessary to satisfy the legislative requirement for graduation. It is recommended that students enroll in Govt. 2306 if only three hours of government are needed to meet the requirements of a technical curriculum or to satisfy the state requirements for teacher certification.

HALT 1301 Principles of Horticulture**(3-2-2)**

An overview of the horticulture industry, plant science, terminology, classification, propagation, environmental responses, and careers and opportunities in the field of horticulture.

HALT 1303 Herbaceous Plants**(3-2-2)**

An in-depth study of herbaceous plant material. Topics include practices and procedures used in the identification, growth, propagation, maintenance, and utilization of herbaceous plants in the horticulture industry.

HALT 1319 Landscape Construction**(3-2-2)**

Exploration of landscape construction materials and the methods used for installation. Topics include site preparation, use of common materials, landscape lighting, water features, and general construction details.

HALT 1322 Landscape Design**(3-2-2)**

A study of the principles and elements of landscape design. Topics include client interview, site analysis, plan view, scale, plant selection, basic drawing and drafting skills, and plan preparation.

HALT 1324 Turfgrass Science & Management**(3-2-2)**

In-depth coverage of various species of warm and cool season grasses including their uses, application, adaptability, environmental tolerances, anatomy, and physiological responses.

HALT 1331 Woody Plant Materials**(3-2-2)**

An in-depth study of the woody plant materials used in the horticulture industry. Topics include identification, characteristics, adaptation, cultural requirements, pest and disease problems, and use in the landscape.

HALT 1333 Landscape Irrigation**(3-2-2)**

In-depth coverage of irrigation systems including equipment, design, performance, and maintenance. Topics include residential and small business applications, troubleshooting, repair, and technological advances in irrigation systems.

HALT 1338 Irrigation Water Management and Conservation**(3-2-2)**

Application of the science of soil-water plant relations and climatic conditions to develop effective scheduling and management of irrigation water systems for residential, commercial, industrial, park and golf courses. Water conservation issues, water policies and codes and other related matters will be discussed.

HALT 1345 Golf/Sports Field/Park Management**(3-3-0)**

Instruction in the management of golf courses, sports fields, and municipal parks departments. Topics include record keeping, budgeting, labor management, maintenance programs, financial reports, personnel management, and business functions.

HALT 1346 Specialized Turfgrass Management**(3-2-2)**

An overview of the construction and management of specialized turf features such as putting greens, tee boxes, bunkers, and sand-based ball fields. Topics include the equipment and cultural practices utilized for intensively managed turf areas.

HALT 1351 Landscape Business Operations**(3-3-0)**

Instruction in the structure of the landscape business including cost estimation; organization; equipment needs; interpretation of financial reports; and material, labor, and equipment management. Emphasis on the types of landscape operations, marketing, legal forms, construction law, and safety.

HALT 2301 Arboriculture**(3-2-2)**

Fundamentals of woody plant physiology and growth including techniques and procedures utilized in making sound tree care decisions related to growth and pest and disease control. Topics include design principles of planning and maintenance for city streets, parks, and commercial and residential properties.

HALT 2312 Turfgrass Maintenance**(3-2-2)**

Instruction in common turfgrass cultural practices. Topics include calculation and application of materials and the operation and maintenance of equipment.

HALT 2314 Plant Propagation**(3-2-2)**

A study of the sexual and asexual propagation of plants used in horticulture. Topics include propagation by seeds, cuttings, grafting, budding, layering, division, separation, and tissue culture; and environmental factors of propagation.

HALT 2318 Soil Fertility and Fertilizers**(3-2-2)**

An in-depth study of the chemistry, soil interaction, plant uptake, and utilization of essential plant nutrients. Topics include deficiency and toxicity symptoms, and the selection, application, and characteristics of fertilizer materials.

**HALT 2320 Nursery Production and Management
(3-2-2)**

An overview of the procedures for establishing and operating a commercial nursery. Topics include site selection, structures, equipment, stock selection, production practices, harvesting, marketing, and management practices.

**HALT 2323 Horticulture Pest Control
(3-2-2)**

Examination of federal, state, and local laws and regulations governing the control of horticultural pests. Topics include procedures; methods; safety requirements; integrated pest management (IPM); and chemical, natural, and biological controls.

**HALT 2331 Advanced Landscape Design
(3-2-2)**

In-depth coverage of advanced practices in landscape planning for commercial and residential landscapes. Topics include advanced design analysis, architectural elements, space articulation, and land engineering concepts.

**HALT 2383 Cooperative Education – Turf Management
(3-1-20)**

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.

**HALT 2386 Internship-Horticulture Service Operations & Management, General
(3-0-21)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

**HIST 1301 History of the United States, Part I
(3-3-0)**

A general survey of United States history from the discovery of America through the Civil War era. Satisfies one-half the legislative requirement of six semester hours in American history.

**HIST 1302 History of the United States, Part II
(3-3-0)**

A general survey of United States history from the Civil War era to the present. Satisfies one-half the legislative requirement of six semester hours in American history.

**HIST 2301 Texas History
(3-3-0)**

A survey of Texas History from the Spanish exploration to the present.

**HIST 2311 Western Civilization to the Seventeenth Century
(3-3-0)**

History of Western civilization from the earliest time through the Seventeenth Century. Surveys Western civilization's roots in the Ancient Middle East, Greece, and Rome. Emphasis of the course is on Medieval Europe, Christian church history, the Renaissance, and the Reformation.

**HIST 2312 Western Civilization Since the Seventeenth Century
(3-3-0)**

History of Western civilization from the Seventeenth Century to the present. Surveys major aspects of the political, social, economic, and intellectual history of France, England, Germany, Italy, Russia, Spain, and other Western European nations. Emphasis of the course is on the Enlightenment, the Age of Revolution, Romanticism, and Twentieth Century totalitarianism.

**HIST 2313 History of England I
(3-3-0)**

Survey of the political, social, economic, military, cultural, and intellectual development of England from prehistory to 1600.

**HIST 2314 History of England II
(3-3-0)**

Survey of the political, social, economic, military, cultural, and intellectual development of England from 1600 to present.

**HIST 2321 World Civilization to the Fifteenth Century
(3-3-0)**

Equivalent to IDST 2372

Prerequisite: None.

Study of the cultural histories of particular civilizations important for understanding the modern world: classical Greco-Roman civilization, China of the Han and Tang dynasties, Latin America, medieval Europe, and Islam in the Middle East and Africa through the Fifteenth Century. Within a general framework of political, social, and economic history, the course emphasizes the literature, philosophy, art, and music of each of these civilizations.

**HIST 2322 World Civilization Since the Fifteenth Century
(3-3-0)**

Equivalent to IDST 2373

Prerequisite: None.

Study of the contact of civilizations and cultural change since the Fifteenth Century. It emphasizes cultural history, literature, philosophy, art, and music of selected civilizations such as Asian, African, and Meso American as well as selected time periods from European history.

**HIST 2323 Eastern Civilizations
(3-3-0)**

Survey of the political, social, economic, military, cultural, and intellectual development of Asia from prehistory to the present.

**HIST 2380 Mexican-American History
(3-3-0)**

Prerequisite: HIST 1301 and HIST 1302.

The historical economic, social and cultural development of minority groups. May include African-American, Mexican-American, Asian-American and Native American issues.

**HIST 2381 African-American History
(3-3-0)**

Historical, economic, social, and cultural development of African-American groups from the 1600s to present.

**HMSY 1337 Introduction to Homeland Security
(3-3-1)**

An overview of homeland security. Evaluation of the progression of homeland security issues throughout Texas and the United States. An examination of the roles undertaken and methods used by governmental agencies and individuals to respond to those issues.

**HMSY 1338 Homeland Security Emergency Communications Management
(3-3-1)**

A study of interagency communication systems. Includes mutual air associations/LEPC, standardized communications systems, and centralized communications hubs. Also covers coordinating emergency traffic, maintaining communication infrastructure security, and establishing communication alert systems and backup communication systems. Topics include political and policy basis of emergency management, technology and emergency management, mitigation, disaster recovery, and hazardous materials awareness. Includes an overview of incident command systems, terrorism and emergency management, mitigation for emergency managers, debris management, and individual and community disaster education.

**HMSY 1339 Homeland Security Emergency Contingency Planning
(3-2-4)**

A study of establishing a process and structure for the systematic, coordinated, and effective delivery of emergency assistance to address the consequences of any major disaster or emergency occurring in any region of the U.S. or other countries. An Emergency Contingency Plan will be developed that outlines public and private agency responses, recovery, and mitigation available to augment local, state, and federal efforts to save lives and protect public health, safety, and property. Includes types of aid available to individuals and communities in the rebuilding after a disaster. Also covers interagency and intergovernmental emergency preparedness, planning, training, exercises, coordination, and information exchange leading to the development of supplemental plans and procedures to implement agency response activities to rapidly and efficiently recover from the disaster or emergency.

**HMSY 1340 Homeland Security Intelligence Operations
(3-3-1)**

A study of the intelligence community. Includes the role of intelligence and law enforcement. Topics include collection methods, cycle, management operations, classification, production and analysis, assessment of targets, and assessment of threat vulnerability. Source development and adjudication will be conducted.

**HMSY 1341 Critical Infrastructure Protection
(3-2-3)**

Identification and analysis of critical infrastructure systems including security and threat assessments. Includes mitigation of threats as well as evaluation and revision of security measures in order to protect critical infrastructures.

HMSY 1342 Understanding and Combating Terrorism**(3-3-1)**

A study of terrorism as well as reasons why America is a terrorist target. Includes methods of terrorism, domestic and international terrorism, Islam and Radical Islam, terrorist operations, cyberterrorism, narcoterrorism, the mind of the terrorist, and organized crime's impact on terrorism.

HMSY 1343 Weapons of Mass Destruction**(3-3-1)**

Topics include weapons of mass destruction as well as hazardous material incidents. Covers hazard and risk assessment, crime scene preservation, chemical agents, toxic industrial chemicals, biological agents, pathogens, radiological agents, explosive devices, detection-sampling and plume models, and decontamination methods. Includes an overview of incident command systems and personal protection equipment. The critical role of first responders in weapons of mass destruction, mitigation, and survival will also be presented. Discussion includes lessons learned from the Oklahoma City Bombing and events of September 11, 2001. Community mitigation plans will be researched in order to prepare for and defeat weapons of mass destruction.

HMSY 2337 Managing a Unified Incident Command**(3-2-4)**

A study of the common set of procedures of the unified incident command system for organizing personnel, facilities, equipment, and communications to successfully coordinate situations such as natural disasters, fires, rescue operations, kidnappings, hazardous material spills, mass casualties, terrorism, and/or weapons of mass destruction. Includes the identification and application of key roles and functional responsibilities for professionally managing these types of incidents. Also covers one or more practical application exercises and/or scenarios.

HRPO 1311 Human Relations**(3-3-0)**

Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment.

HRPO 2301 Human Resources Management**(3-3-0)**

Prerequisite: BMGT 1301 and BMGT 1303

Behavioral and legal approaches to the management of human resources in organizations.

HRPO 2307 Organizational Behavior**(3-3-0)**

The analysis and application of organizational theory, group dynamics, motivation theory, leadership concepts, and the integration of interdisciplinary concepts from the behavioral sciences.

HUMA 1301 Introduction to the Humanities**(3-3-0)**

This course is an interdisciplinary assessment of cultural, political, philosophical and aesthetic factors critical to the formulation of the values that shaped the historical development of the individual and of society. The course will involve frequent field trips.

HUMA 1302 World Cultures and Global Issues**(3-3-0)**

An interdisciplinary, multi-perspective assessment of cultural, political, philosophical, scientific and aesthetic factors critical to the formulation of values and historical development of the individual and society. This course will focus on recent global and international issues.

HUMD 0300 Human Development**(3-3-0)**

This course provides students with a variety of experiences and information related to learning, memory, motivation, and adjustment to help the student:

1. Identify personal strengths and weaknesses, interests, and values;
2. Develop effective study skills, college success strategies, and interpersonal skills;
3. Understand the process involved in making rational decisions for academic, personal, and career planning.

Students who satisfactorily complete this course will be exempt from the orientation requirement for an associate degree.

NOTE: Students desiring a course in Human Developmental Psychology should refer to the section of Psychology Courses.

IBUS 1301 Principles of Imports-Exports I**(3-3-0)**

A study of export management processes and procedures. Topics include governmental controls, licensing of products, documentation, commercial invoices, and traffic procedures. Application to human and public relations, management of personnel, finance, and accounting procedures.

IBUS 1305 Introduction to International Business and Trade**(3-3-0)**

The techniques for entering the international marketplace. Emphasis on the impact and dynamics of sociocultural, demographic, economic, technological, and political-legal factors in the foreign trade environment. Topics include patterns of world trade, internationalization of the firm, and operating procedures of the multinational enterprise.

IBUS 1354 International Marketing Management**(3-3-0)**

Prerequisite: BMGT 2373 or Departmental Approval

Analysis of international marketing strategies using market trends, costs, forecasting, pricing, sourcing, and distribution factors. Development of an international export/import marketing plan.

IBUS 2341 International Comparative Management**(3-3-0)**

A study of cross-cultural comparisons of management and communications processes. Emphasis on cultural geographic distinctions and antecedents that affect individual, group, and organizational behavior. Topics include sociocultural demographic, economic, technological, and political-legal environment of cluster countries and their relationship to organizational communication and decision making.

**IBUS 2345 Import Customs Regulations
(3-3-0)**

A study of the duties and responsibilities of the licensed customs broker or custom-house broker. Topics include processes for customs clearance including appraisalment, bonded warehouse entry, examination of goods, harmonized tariffs, fees, bonding, penalties, quotas, immediate delivery, consumption, and liquidation, computerized systems, laws, and regulations.

**IBUS 2380 Cooperative Education-International Business
(3-1-20)**

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.

**IDST 1301 Schools and Society: An Introduction to Education
(3-3-0)**

An enriched and integrated preservice course and content experience that:

1. Provides active recruitment and support of undergraduates interested in careers in teaching, especially in high need fields such as secondary math and science education, bilingual education and special education;
2. Provides students with opportunities to participate in early field experiences including middle and high school classrooms with varied and diverse populations;
3. Provides students with support from college and school faculty, preferably in small cohort groups, for the purpose of introducing and analyzing the culture of schooling and classrooms from the perspectives of language, gender, socioeconomic, ethnic and disability-based academic diversity and equity.

**IDST 2370 Individual, Family, and Community
(3-3-0)**

Prerequisite: ENGL 1301

This course is an examination of the history, basic questions, major theories and significance of the social and behavioral sciences. It will focus on the scientific understanding of the individual, the family, and the community.

**IDST 2371 Society and Social Issues
(3-3-0)**

Prerequisite: ENGL 1301

This course is a study of the history, causes and implications of selected social and institutional issues such as change, ethnicity, gender, and social conflict. It emphasizes the making of informed, rational and moral decisions

**IDST 2372 World Civilization to the Fifteenth Century
(3-3-0)**

Equivalent to HIST 2321

Prerequisite: ENGL 1301

This course is a study of the cultural histories of particular civilizations important for understanding the modern world: classical Greco-Roman civilization, China of the Han and Tang dynasties, Latin America, medieval Europe, and Islam in the Middle East and Africa through the Fifteenth Century. Within a general framework of political, social and economic history, the course emphasizes the literature, philosophy, art, and music of each of these civilizations.

**IDST 2373 World Civilization Since the Fifteenth Century
(3-3-0)**

Equivalent to HIST 2322

Prerequisite: ENGL 1301

This course is a study of the contact of civilizations and cultural change since the Fifteenth Century. It emphasizes cultural history, literature, philosophy, art, and music of selected civilizations such as Asian, African, and Meso American as well as selected time periods from European history.

**IDST 2374 World Literature I, The Narrative Mode
(3-3-0)**

Equivalent to ENGL 2332

Prerequisite: ENGL 1302

This course explores the narrative mode in literature across the world and across time. Readings will include a variety of short fiction and other works.

**IDST 2375 World Literature, Dramatic and Lyric Modes
(3-3-0)**

Equivalent to ENGL 2333

Prerequisite: ENGL 1302

This course explores the dramatic and lyric modes in literature across the world and across time. Works such as Medea, Blood Wedding, the screenplay of Citizen Kane, and anthology of lyric poetry will be studied. Film will be reviewed in class in conjunction with reading of screenplay and the question of translation will be addressed in conjunction with lyric poetry.

**IDST 2377 Modes of Inquiry Across the Fields of Study
(3-3-0)**

Prerequisite: ENGL 1302

This course is a study of thinking in the sciences, social studies, mathematics, language arts, and fine arts through interdisciplinary investigations. Course experiences include modeling, practice, and analysis of ways of inquiring in the several subject areas, seeking their implications for interdisciplinary inquiries.

**INCR 1302 Physics of Instrumentation
(3-2-4)**

An introduction to simple control loops. Introduction to pressure, temperature, level, and flow transmitters and the various transducers used in the detection of changes in process variables.

**INEW 2334 Advanced Web Page Programming
(3-3-1)**

Advanced applications for Web authoring. Topics may include Perl Scripts, Common Gateway Interface (CGI), Database Interaction, Active Server Pages, Java Applets, Javascripts, tables, HTML, and/or interactive elements.

**INTC 1305 Introduction to Electronic Instrumentation
(3-2-2)**

A survey of the instrumentation field and the professional requirements of the instrumentation technician, including an introduction to computer and calculator applications involved in basic electronic circuit analysis.

**INTC 1312 Introduction to Instrumentation and Safety Technology
(3-3-0)**

An overview of industries employing instrument technicians. Course also covers instrument safety techniques and practices as applied to the instrumentation field.

**INTC 1357 AC/DC Motor Control
(3-2-2)**

A study of electric motors and motor control devices common to a modern industrial environment. A presentation of motor characteristics with emphasis on starting, speed control, and stopping systems.

**ITCC 1302 CCNA 1: Networking Basics
(3-1-4)**

A course introducing the basics of networking including network terminology, local area networks (LAN) and wide area networks (WAN). Topics include network protocols such as TCP/IP, Open System Interconnection (OSI) models, cabling and routers.

**ITCC 1306 CCNA 2: Router and Routing Basics
(3-1-4)**

An introduction to basic Cisco router configuration for local area networks. Topics include initial router configuration for TCP/IP, management of Cisco IOS and router configuration files, routing protocols, and access control lists.

**ITCC 1342 CCNA 3: Switching Basic and Intermediate Routing
(3-1-4)**

A course focusing on advanced topics including IP addressing techniques, intermediate routing protocols, CLI configuration of switches, Ethernet switching, VLANs, Spanning Tree Protocol, and VLAN Trunking Protocol.

**ITCC 1346 CCNA 4: WAN Technologies
(3-1-4)**

This course focuses on advanced IP addressing techniques (Network Address Translation [NAT], Port Address Translation [PAT], and DHCP), WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management and introduction to optical networking. In addition, the student will prepare for the CCNA exam.

**ITMC 1301 Microsoft Windows Network and Operating Systems Essentials
(3-3-0)**

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325 and ITNW 1325 and ITNW 1333 and ITNW 1354

An introduction to Microsoft Windows network operating systems and to the fundamentals of networking technologies that they support.

**ITMC 1341 Implementing Microsoft Windows Professional and Server
(3-3-0)**

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325

In-depth coverage of the knowledge and skills necessary to install and configure Microsoft Windows on stand-alone computers and on client computers that are part of a workgroup or domain, and the skills and knowledge necessary to install and configure Windows Server to create file, print, and servers.

ITMC 1342 Implementing a Microsoft Windows Network Infrastructure (3-3-0)

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325

Skills development in installing, configuring, managing, and supporting a network infrastructure that uses the Microsoft Windows server family of products.

ITMC 1343 Implementing and Administering Microsoft Directory Services (3-3-0)

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325 and ITNW 1325 and ITNW 1333 and ITNW 1354

Provides students with the knowledge and skills necessary to install, configure, and administer Microsoft Windows Active Directory service. Focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers.

ITMC 1345 Enterprise Development Using Microsoft Visual Basic.NET (3-3-1)

Visual Basic.NET (VB.NET) programming language for developing, distributing, and maintaining objects across distributed networks including the Internet. Includes using VB.NET to access data stored on a Microsoft Structured Query Language (SQL) server database and allows implementation as a middleware (business rules) application.

ITMC 1401 Microsoft Windows Network and Operating System Essentials (4-3-1)

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325

An introduction to Microsoft Windows networking operating systems and to the fundamentals of networking technologies that they support.

ITMC 1419 Installing and Administering Microsoft Windows Server Operating Systems (4-3-1)

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325

An introduction to Microsoft ® Windows server operating system in a single domain environment. Topics include basic installation, configuration tasks, and day-to-day administration tasks in a Windows-based network.

ITMC 2332 Designing a Microsoft Windows Networking Services Infrastructure (3-3-0)

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325 and ITNW 1325 and ITNW 1333 and ITNW 1354

Provides experienced support professionals with the information and skills to create a networking services infrastructure design that supports the required network applications.

ITMC 2333 Designing a Secure Microsoft Windows Network (3-3-0)

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325 and ITNW 1325 and ITNW 1333 and ITNW 1354

Provides students with the knowledge and skills necessary to design a security framework for small, medium, and enterprise networks by using Microsoft Windows networking technologies.

**ITNW 1321 Introduction to Networking
(3-3-1)**

Prerequisite: ITSC 1301

Introduction to the fundamentals, basic concepts, and terminology of networks. Topics include the access and use of the Internet and networking hardware and software, including current developments in networking.

**ITNW 1325 Fundamentals of Networking Technologies
(3-3-0)**

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325

Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software.

**ITNW 1333 Microsoft Networking Essentials
(3-3-0)**

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325

Instruction in networking essential concepts including the OSI reference model, network protocols, transmission media, and networking hardware and software.

**ITNW 1337 Introduction to the Internet
(3-3-1)**

Introduction to the Internet with emphasis on using the World Wide Web to locate, transfer and publish information. Survey of emerging technologies on the Internet.

**ITNW 1354 Implementing and Supporting Servers
(3-3-0)**

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325

A course in the development of skills necessary to implement, administer, and troubleshoot information systems that incorporate Windows-Based Servers in a networked computing environment.

**ITNW 1421 Introduction to Networking
(4-3-2)**

Introduction to the fundamentals, basic concepts, and terminology of networks. Topics include the access and use of the Internet and networking hardware and software, including current developments in networking.

**ITNW 2165 Practicum (or Field Experience) - Business Systems Networking
and Telecommunications
(1-0-10)**

Prerequisite: ITSC 1301 and ITSC 1317 and ITSC 1325 and ITNW 1325 and ITNW 1333 and ITNW 1354

Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

**ITNW 2301 Administering Servers
(3-3-1)**

Post-installation and day-to-day administration tasks of various network operating system servers.

**ITNW 2321 Networking with TCP/IP
(3-3-1)**

Set up, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP) on networking operating systems.

**ITSC 1301 Introduction to Computers
(3-3-1)**

Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. Exact topics may be varied to reflect emerging technological changes. Provides a foundation for further study in computer science or computer information systems.

**ITSC 1305 Introduction to PC Operating Systems
(3-3-1)**

A study of personal computer operating systems. Topics include installation and configuration, file management, memory and storage management, control of peripheral devices, and use of utilities. Emphasis on commands commonly needed by business applications programmers. Specific PC operating system may vary. This course is appropriate for CIS skills upgrade.

**ITSC 1307 UNIX Operating System I
(3-3-1)**

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.

**ITSC 1309 Integrated Software Applications I
(3-3-1)**

Integration of applications from popular business productivity software suites. Instruction in embedding data, linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software. Specific software may vary. Students operate the chosen software in the laboratory. This course is appropriate for skills upgrade.

**ITSC 1313 Internet/Web Page Development
(3-3-1)**

Prerequisite/Corequisite: ITSC 1301 and ITSC 1309 or equivalent.

Instruction in the use of Internet services and the fundamentals of web page design and web site development. The student will create Web pages and supporting elements using HTML and current authoring tools and maintain Web pages and supporting elements.

**ITSC 1325 Personal Computer Hardware
(3-3-1)**

Prerequisite: ITSC 1309 or equivalent.

A study of current personal computer hardware including personal computer assembly and upgrading, setup and configuration, and troubleshooting. The student is introduced to the fundamentals of PC architectural design to include basic hardware components and devices. Students learn how to troubleshoot minor hardware problems, make minor hardware repairs, configure and install hardware, and install necessary software drivers.

**ITSC 2337 UNIX Operating System II
(3-3-1)**

Prerequisite: ITSC 1307

Continued study of the UNIX operating system commands. Includes additional scripting topics such as CGI or PERL.

**ITSC 2586 Internship – Computer and Information Sciences, General
(5-1-20)**

Prerequisite: Consent of advisor.

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the College and the employer. This course may be repeated if topics and learning outcomes vary.

**ITSE 1302 Computer Programming
(3-3-1)**

Introduction to computer programming with emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

**ITSE 1318 Introduction to COBOL Programming
(3-3-1)**

Introduction to computer programming using COBOL. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. Attention to topics such as loops, conditional branches, arrays, and subroutines. Students design, write, and test elementary programs.

**ITSE 1329 Programming Logic and Design
(3-3-1)**

A disciplined approach to problem-solving with structured techniques and representation of algorithms using appropriate design tools. Discussion of methods for testing, evaluation, and documentation.

**ITSE 1331 Introduction to Visual BASIC Programming
(3-3-1)**

Prerequisite/Corequisite: ITSC 1301 or COSC 1300 or COSC 1301.

Introduction to computer programming using Visual BASIC. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. Includes a brief review of machine-level concepts, such as the binary number system and ASCII coding, which provide the foundation for higher-level programming. Emphasis on programming, with attention to topics such as loops, conditional branches, arrays, and subroutines. Students design, write, and test simple business-oriented programs in a microcomputer environment. This course is appropriate for skills upgrade.

**ITSE 1350 Systems Analysis and Design
(3-3-1)**

Prerequisite: ITSC 1301 or equivalent and BUSI 1301 or equivalent.

Comprehensive introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools. The student examines the process of systems analysis/design and the typical business systems resulting from that process. Common structured methods, tools, and techniques of systems analysis are studied together with common computer-based business systems such as order tracking, accounting, materials and operations control.

**ITSE 1391 Special Topics in Computer Programming
(3-3-1)**

Prerequisite: ITSC 1301 and ITSC 1309.

Recommended: any other programming class.

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 is appropriate for CIS skills upgrade.

**ITSE 1402 Computer Programming
(4-3-2)**

Introduction to computer programming with emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

**ITSE 2302 Intermediate Web Programming
(3-3-1)**

Intermediate applications for web authoring. Topics may include Server Side Include (SSI), Perl, HTML, JAVa, Javascript, and/or ASP.

**ITSE 2309 Database Programming
(3-3-1)**

Prerequisite: ITSW 2337

Application development using database programming techniques emphasizing database structures, modeling, and database access. The student adapts his/her knowledge of structured programming techniques to a language created specifically for database use. Emphasis is on the manipulation of databases at the program level, and the development of user-friendly, interactive programs. Students design, write and test programs.

**ITSE 2313 Web Authoring
(3-3-1)**

Prerequisites: ITSC 1313 or equivalent.

Instruction in designing and developing web pages that incorporate text, graphics, and other supporting elements using current technologies and authoring tools. Emphasis is on web site maintenance and business support to include e-commerce functions.

**ITSE 2317 JAVA Programming
(3-3-1)**

Introduction to JAVA programming with object-orientation. Emphasis on the fundamental syntax and semantics of JAVA for applications and web applets.

**ITSE 2351 Advanced COBOL Programming
(3-3-1)**

Prerequisite: ITSE 1318

Further applications of programming techniques using COBOL, including file access methods, data structures and modular programming, program testing and documentation. This course is a continuation of Introduction to COBOL Programming. The student is taught the use of standard business algorithms that require combination and nesting of the fundamental techniques covered in Introduction to COBOL Programming. Indexed file processing is also studied. Students design, write, and test programs.

**ITSW 1301 Introduction to Word Processing
(3-3-0)**

Recommended: Introduction to Computers and keyboarding proficiency.

An overview of the production of documents, tables, and graphics.

**ITSW 1304 Introduction to Spreadsheets
(3-2-2)**

Instruction in the concepts, procedures, and importance of electronic spreadsheets.

**ITSW 1310 Introduction to Presentation Graphics Software
(3-3-1)**

Prerequisite: ITSC 1301 and ITSC 1309 or equivalent.

Instruction in the utilization of presentation software to produce multimedia presentations. Graphics, text, sound, animation and/or video may be used in presentation development. The student is also taught the use of presentation graphics software as a tool to enhance productivity. Emphasis on the creation or modification of graphics applications as needed for typical business and professional situations. Students design, build, and test graphics applications in the laboratory.

**ITSW 1391 Special Topics: Current Web Design Software
(3-3-1)**

Instruction and use in the most common Web design software applications used in today's business environment. Web design software applications such as Dream Weaver, Flash, Cold Fusion and others will be used. The student will be taught the software semantics for current applications and will demonstrate Web design competency in each.

**ITSW 1391 Special Topics in Data Processing Technology/Technician
(3-3-1)**

Prerequisite: ITSC 1301 and ITSC 1309

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 is a practical application of the skills developed throughout the A.A.S. program in software applications. Case studies require the student to begin with needs analysis and continue through software selection, applications design, implementation, testing, and documentation. Students thus practice the application of software tools to simulated business situations in which a computer-based solution would be appropriate. The class is expected to work in a self-paced mode, as would professionals under a manager.

ITSW 2334 Advanced Spreadsheets**(3-3-1)**

Prerequisite: ITSC 1301 or COSC 1301 and ITSC 1309 or equivalent, or COSC 1300.

Designed to provide an understanding of advanced functionality of electronic spreadsheets. The student is taught the use of electronic spreadsheet software as a tool to enhance productivity. Emphasis on the creation or modification of work-sheet templates as needed for typical business and professional situations. Students design, build, and test spreadsheet applications in the laboratory.

ITSW 2337 Advanced Database**(3-3-1)**

Prerequisite: ITSC 1301 or COSC 1301 and ITSC 1309 or equivalent.

Designed to provide an understanding of advanced functionality of databases. The student is taught the use of database management software as a tool to enhance productivity. Emphasis on the creation of database applications as needed for typical business and professional situations. Attention is on topics such as data design, updating, access and reporting. Students design, build, and test database applications in the laboratory.

ITSY 1300 Fundamentals of Information Security**(4-3-2)**

Basic information security goals of availability, integrity, accuracy, and confidentiality. Vocabulary and terminology specific to the field of information security are discussed. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. The importance of appropriate planning and administrative controls is also discussed.

ITSY 1442 Information Technology Security**(4-3-2)**

Instruction in security for network hardware, software, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses.

ITSY 2300 Operating System Security**(3-3-1)**

Safeguard computer operating systems by demonstrating server support skills and designing and implementing a security system. Identify security threats and monitor network security implementations. Use best practices to configure operating systems to industry security standards.

ITSY 2301 Firewalls and Network Security**(3-3-1)**

Identify elements of firewall design, types of security threats and responses to security attacks. Use best practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities.

Beginning in Spring 2005 The Physical Education Department will have a new name: Kinesiology, Health and Dance. All classes will have the prefix KINE instead of PHED.

**KINE 1100 Adapted Physical Activity (formerly PHED 1102)
(1-1-2)**

This class is designed for physically disabled students. A release/limitation form that describes the student's condition and that contains activity suggestions from the student's doctor is required.

**KINE 1104 Aerobics I (formerly PHED 1140)
(1-1-2)**

This is an exercise-to-music class that could include any of the following: dance aerobics, sports moves aerobics, step aerobics, stretching, strength work, and muscular endurance work. Activities will be presented progressively. Fitness principles will be learned and practiced.

**KINE 1105 Aerobics II (formerly PHED 1141)
(1-1-2)**

Prerequisite: KINE 1104 or permission of the department.

Many of the same activities utilized in Aerobics I also will be used in this class, but will start at a higher level. Additionally, students will apply exercise principles in developing a workout routine to be presented in class.

**KINE 1109 Aquatic Conditioning I (formerly PHED 1134)
(1-1-2)**

Prerequisite: KINE 1173 or permission from department.

Students who register for this class should be able to demonstrate skills on elementary backstroke, sidestroke, breaststroke, back crawl, and front crawl. Strokes to be introduced are: inverted breaststroke, lifesaving stroke, butterfly, and racing strokes. Water safety, basic rescue, and survival techniques will also be taught.

**KINE 1112 Ballet I (formerly PHED 1149)
(1-1-2)**

Students will learn how to do a ballet warm-up and cool-down and dance combinations. As an activity class, each student should be prepared to participate to the best of his/her ability fully in each class session.

**KINE 1113 Ballet II (formerly PHED 1160)
(1-1-2)**

Prerequisite: KINE 1112 or permission from department.

Continued instruction and participation in ballet technique. Students will build on classical ballet techniques learned in Ballet I including barre, allegro, adagio, center floor combinations.

**KINE 1114 Ballet Folklorico I (formerly PHED 1152)
(1-1-2)**

Instruction and participation in Ballet Folklorico dance technique. This class introduces students to footwork techniques emphasizing fundamentals of body placement, vocabulary, and regions in Mexico Folklorico Dance. Students will develop dance combinations to enhance technical skills, memory and performance qualities.

KINE 1115 Ballet Folklorico II (formerly PHED 1139)
(1-1-2)

Prerequisite: KINE 1114 or permission of the department.

Continued and more advanced instruction and participation in Ballet Folklorico dance technique.

KINE 1116 Basketball I (formerly PHED 1113)
(1-1-2)

This is a skill development class for beginners. Students will work daily on drills and activities designed to increase skills in passing, dribbling, ball handling, defense, and shooting. Team skills will be learned after fundamentals are mastered

KINE 1117 Basketball II (formerly PHED 1114)
(1-1-2)

Prerequisite: KINE 1116 or permission of the department.

This course is a continuation of KINE 1116 and will focus on the development of increased individual skills as well as introducing team strategies and techniques.

KINE 1122 Bowling I (formerly PHED 1108)
(1-1-2)

This course is to introduce basic bowling skills. Students will learn grips, approaches, releases, rules, history, scoring, and equipment selection use and care.

KINE 1124 Camping and Backpacking I (formerly PHED 1125)
(1-1-2)

Hiking, orienteering, packing, camping, and survival skills will be discussed and practiced. A weekend trip may be required.

KINE 1126 Cardio-Kickboxing I (formerly PHED 1142)
(1-1-2)

Freestyle self-defense techniques combined with high-energy aerobic moves/steps. Each session provides high/low fluctuation in the heart rate, which translates into an energetic workout. Self-defense moves include kicking, jabbing, punching, and blocking. There is no physical contact.

KINE 1127 Cardio-Kickboxing II (formerly PHED 1143)
(1-1-2)

Prerequisite: KINE 1126 or permission from department.

This course is designed to develop cardio respiratory fitness, muscular endurance, flexibility and body composition through the use of combined kickboxing and aerobic activity. Hand weights, jump ropes and traditional floor work routines will be included in regular circuit, and interval workouts. Concepts of exercise and proper nutrition for a lifetime of health and weight management will also be discussed.

KINE 1132 Fencing I (formerly PHED 1101)
(1-1-2)

Students will learn basic foil techniques and footwork. History, rules, scoring systems, and terminology will be learned.

KINE 1133 Fencing II (formerly PHED 1111)
(1-1-2)

Prerequisite: KINE 1132 or permission from department.

Provides advanced levels of fencing techniques and introduces basic fundamentals of directing and judging fencing.

KINE 1136 Flag Football I (formerly PHED 1170)
(1-1-2)

This course is designed to teach the basics of passing, catching and kicking as well as other basic fundamentals of football. Students will also study the rules and basic strategy and will be able to participate in games.

KINE 1140 Golfing I (formerly PHED 1105)
(1-1-2)

Students will learn how and when to use woods and irons. Also to be covered are putting, different scoring systems, rules, and etiquette. This course is offered off campus.

KINE 1141 Golfing II (formerly PHED 1123)
(1-1-2)

Prerequisite: KINE 1140 or permission from department.

Intermediate golf skills, techniques and strategies are the focus of this class. Students will engage in play at a certified golf course. This course is offered off campus.

KINE 1144 Jazz Dance I (formerly PHED 1147)
(1-1-2)

Students will learn how to do a jazz dance warm-up and cool-down and movement combinations with a focus on alignment, ensemble work, and musicality. As an activity class, each student should be prepared to participate to the best of his/her ability fully in each class session.

KINE 1146 Jogging I (formerly PHED 1150)
(1-1-2)

Students will learn how to use aerobic running in a fitness plan. Health-related fitness components, safety, injury prevention, and training system will be taught.

KINE 1150 Life Guard Training I (formerly PHED 1132)
(1-1-2)

Students registered for this class should be able to demonstrate all the strokes taught in Swimming I and II, as well as be able to swim 800 meters of freestyle laps without stopping. Successful completion of this class should qualify students to apply for Red Cross certification.

KINE 1152 Modern Dance I (formerly PHED 1145)
(1-1-2)

Students in this course will explore movement as an art form to achieve grace, poise, and self-expression. Fundamental movement patterns and dance composition will be part of course content.

KINE 1153 Modern Dance II (formerly PHED 1146)
(1-1-2)

Prerequisite: KINE 1152 or permission from department.

This course is a continuation of KINE 1152. Intermediate levels of dance technique, composition, and repertoire are included.

KINE 1156 Physical Conditioning I (formerly PHED 1104)
(1-1-2)

This class will work on strength, muscular endurance, flexibility, and cardiovascular fitness. Students will perform weight training, stretching, rope jumping, stationary bike riding, and some running activities in class.

KINE 1164 Scuba I (formerly PHED 1136)
(1-1-2)

Students will learn about selection, care, and use of equipment. Safety, underwater movements, and other topics will be learned and practiced.

KINE 1165 Soccer I (formerly PHED 1170)
(1-1-2)

This is a basic level class. Beginning skills such as ball control, dribbling, passing, shooting, and defense will be practiced. Students will learn the rules and history of the sport.

KINE 1167 Social Dance I (formerly PHED 1144)
(1-1-2)

This course will introduce the student to a variety of popular social and traditional social dances including: Latin dances, swing, jitterbug, hip-hop, and country western.

KINE 1168 Social Dance II (formerly PHED 1148)
(1-1-2)

Prerequisite: KINE 1167 or permission from department.

This course will build on dance rhythms and basic forms learned in Social Dance I with an increased emphasis on placement, partnering, rhythmic analysis, and variations.

KINE 1169 Softball I (formerly PHED 1103)
(1-1-2)

Infielder and outfielder techniques, batting, and throwing for distance and accuracy will be taught. Rules for slow-pitch will be emphasized but fast-pitch will also be covered.

KINE 1171 Spin Bike I (formerly PHED 1109)
(1-1-2)

This course is a group exercise class designed to improve individualized cardiovascular fitness with the use of stationary bicycles.

KINE 1172 Spin Bike II (formerly PHED 1172)
(1-1-2)

Prerequisite: KINE 1171 or permission from department.

This course is an advanced cardiovascular conditioning class using stationary bicycles.

KINE 1173 Swimming I (formerly PHED 1129)
(1-1-2)

This is a class for students with no water experience, fear of the water, and/or no previous instruction in the following strokes: elementary backstroke, sidestroke, breaststroke, back crawl, and front crawl. Water orientation, floating, and gliding practice will lead up to stroke instructions.

KINE 1174 Swimming II (formerly PHED 1131)
(1-1-2)

Prerequisite: KINE 1173 or permission from department.

This is a class for good swimmers who want to use swimming as a cardiovascular fitness activity. Training regimen for fitness, endurance swimming, and competition will be learned and practiced.

KINE 1183 Tennis I (formerly PHED 1115)
(1-1-2)

This class is for true beginners and others with no previous instruction in tennis. Court movements, grips, forehand and backhand ground strokes, volleys, and serves will be covered.

KINE 1184 Tennis II (formerly PHED 1116)
(1-1-2)

Prerequisite: KINE 1183 or permission from department.

This class is designed for students with credit for Tennis I or who have competitive experience. Stroke refinement, game strategies, and advanced drills will be included.

KINE 1187 Triathlon Training I (formerly PHED 1137)
(1-1-2)

Training theories and skill techniques for running, biking, and swimming will be learned and applied. Related factors such as nutrition, weight training, combination workouts, and competition skills also will be covered. Some experience is helpful but not mandatory. Students must provide their own bicycles.

KINE 1189 Varsity Athletics I (formerly PHED 1155)
(1-1-2)

Prerequisite: Permission from instructor is necessary before enrollment.

Students will learn training systems and techniques appropriate for various events in one particular sport. Participation in practice sessions and competitions is required.

KINE 1190 Volleyball I (formerly PHED 1117)
(1-1-2)

The student in this class will learn forearm pass, overhead pass, and overhead serve. Individual and paired drills, lead-up games, and conditioning activities will prepare students for competition.

KINE 1191 Volleyball II (formerly PHED 1118)
(1-1-2)

Prerequisite: KINE 1190 or permission of the department.

This course is for students with credit for Volleyball I or previous competitive experience. Basic skills will be reviewed and tested as well as spiking, blocking, team offense, and team defense strategies.

KINE 1192 Walking I (formerly PHED 1120)
(1-1-2)

Students will learn about health-related physical fitness, monitoring their effort and progress, building a personal fitness plan for walking.

KINE 1194 Water Aerobics I (formerly PHED 1135)
(1-1-2)

Exercises designed to increase cardiovascular fitness, flexibility, strength, and muscular endurance will be performed in shallow areas of the pool. This is a good class for overweight students with joint problems, and students who want a pool based class that does not involve swimming.

KINE 1195 Water Aerobics II (formerly PHED 1124)
(1-1-2)

Prerequisite: KINE 1194 or permission from department.

Additional exercises designed to increase cardiovascular fitness, flexibility, strength and muscular endurance.

KINE 1196 Weight Training I (formerly PHED 1106)
(1-1-2)

This class will focus on the development of strength and muscular endurance as they relate to overall health related fitness. Strength training theories, hypertrophy, balance, and body composition will be topics for discussion. Some cardiovascular work also will be encouraged.

KINE 1197 Weight Training II (formerly PHED 1107)
(1-1-2)

Prerequisite: KINE 1196 or permission of the department.

This course is a continuation of KINE 1196. Students will learn and practice advanced concepts such as circuit training and sports-specific training.

KINE 1198 Yoga I (formerly PHED 1112)
(1-1-2)

Yoga introduces the student to the philosophy and practice of various types of yoga, including Hatha Yoga, power yoga, yoga for fitness, and yoga for conditioning as a way to enhance physical, mental and spiritual well-being.

KINE 1199 Yoga II (formerly PHED 1119)
(1-1-2)

Prerequisite: KINE 1198 or permission from department.

This course is a continuation of KINE 1198 and includes the philosophy and practice of various types of yoga, including Hatha Yoga, power yoga, yoga for fitness, and yoga for conditioning as a way to enhance physical, mental and spiritual well-being. Additional concepts and techniques will build on those learned in KINE 1198.

KINE 1238 Physical Fitness (formerly PHED 1238)
(2-2-0)

This course introduces physical fitness concepts and the use of selected physiological variables of fitness. Suitable fitness programs will be explored.

**KINE 1301 Introduction to Physical Education (formerly PHED 1301)
(3-3-0)**

This course, intended for physical education majors, is an orientation to the field of Health, Physical Education, and Recreation including the history, philosophy, fundamentals, current practices, and trends of profession. Career opportunities will be explored.

**KINE 1304 Personal & Community Health (formerly PHED 1304)
(3-3-0)**

This course will investigate relationships among infectious disease, chronic disease, and lifestyle factors in personal health. Special emphasis is placed on current public health issues.

**KINE 1305 Personal & Community Health II (formerly PHED 1305)
(3-3-0)**

Prerequisite: KINE 1304 or permission from department.

The principles of health as they relate to individual people and the community. Course includes: epidemiology, health through the lifespan, and assessment and implementation of health programs in the community.

**KINE 1306 First Aid (formerly PHED 1306)
(3-3-0)**

This course is designed to enable students to recognize and avoid hazards within his/her environment; to intelligently assist in case of an emergency or illness; to develop skills necessary for immediate and temporary care of a victim. First Aid and Adult, Child and Infant Certification will be offered.

**KINE 1308 Intramurals and Officiating (formerly PHED 1308)
(3-3-0)**

The student will develop competency in designing, organizing, and promoting intramural programs. Emphasis on officiating techniques and procedures in various activities will be explored.

**KINE 1321 Coaching/Sports/Athletics I (formerly PHED 1321)
(3-3-0)**

This course examines in depth four of the eight domains of the National Standards for Athletic coaches: Injury Prevention, Care & Management; Risk Management; Growth, Development & Learning; and Professional Preparation and Development. Other domains are also introduced. This class will further explore the global role of sports and the Olympic movement and students will develop their philosophy of coaching.

**KINE 1322 Coaching/Sports/Athletics II (formerly PHED 1322)
(3-3-0)**

This course examines in depth four of the eight domains of the National Standards for Athletic Coaches: Training, Conditioning and Nutrition; Social/Psychological Aspects of Coaching; Skills, Tactics and Strategies; and Teaching and Administration. Other domains are also introduced. Students will also become familiar with the UIL and NCAA eligibility rules.

**KINE 1331 Physical Education in the Elementary Grades (formerly PHED 1331)
(3-3-0)**

This is a course in materials, methods and activities in physical education programs in elementary schools. The needs and interests at different grade levels are stressed.

**KINE 1346 Substance Abuse (formerly PHED 1346)
(3-3-0)**

Students will examine the use and abuse of drugs in today's society. Emphasis will include physiological changes that occur, biochemical reactions, and brain triggers involved in substance abuse. Also included are psychological factors.

**KINE 2101 Skill Analysis-Individual Activity (formerly PHED 2101)
(1-1-2)**

Specialized activity instruction involving skills, drills, rules, regulations, and skill performance in a variety of selected individual activities.

**KINE 2102 Skill Analysis-Dual Activity (formerly PHED 2102)
(1-1-2)**

Specialized activity instruction involving skills, drills, rules, regulations, and skill performance in a variety of selected dual activities.

**KINE 2103 Skill Analysis-Team Sport (formerly PHED 2103)
(1-1-2)**

Specialized activity instruction involving skills, drills, rules, regulations, and skill performance in a variety of selected team activities.

**KINE 2116 Basketball III (formerly PHED 1121)
(1-1-2)**

Prerequisite: KINE 1117 or permission of the department.

This course provides for further development of advanced basketball skills and strategies. Emphasis is placed on team offense and defense concepts and techniques.

**KINE 2132 Fencing III (formerly PHED 1128)
(1-1-2)**

Prerequisite: KINE 1133 or permission of the department

Provides advanced levels of fencing techniques and introduces basic fundamentals of directing and judging fencing.

**KINE 2133 Fencing Private I (formerly PHED 1126)
(1-1-2)**

Prerequisite: KINE 1132 or permission from department.

This course provides individual instruction in the basic fundamentals of movement and simple offence and defense with foil, as well as explanation of rules of foiling fencing.

**LBRA 1391 Special Topics: Acquisitions and Cataloging
(3-3-0)**

This course covers cataloging (Library of Congress and Dewey), the acquisitions process, tools used, bibliographic search tools, terminology, serials ordering, check-in and claim processes, and U.S. MARC coding.

**LBRA 1391 Special Topics: Public Services
(3-3-0)**

This course covers circulation desk, interlibrary loan functions, and a variety of other public service processes, including circulation policies, reserve collection policies and procedures, copyright issues, terminology, public relations, stacks maintenance, inventory, and keeping and reporting of statistics, and audiovisual services.

**LBRA 1391 Special Topics: Information Sources and Services
(3-3-0)**

This course covers reference philosophy, criteria to evaluate an information source, information sources available in all formats, the reference interview, search strategies, Boolean searching, and digital resources.

**LMGT 1319 Introduction to Business Logistics
(3-3-0)**

A systems approach to managing activities associated with traffic, transportation, inventory management and control, warehousing, packaging, order processing, and materials handling.

**LMGT 1323 Domestic and International Transportation Management
(3-3-0)**

Prerequisite: LMGT 1319 or Departmental Approval

An overview of the principles and practices of transportation and its role in the distribution process. Emphasis on the physical transportation systems involved in the United States as well as on global distribution systems. Topics include carrier responsibilities and services, freight classifications, rates, tariffs, and public policy and regulations. Also includes logistical geography and the development of skills to solve logistical transportation problems and issues.

**LMGT 1325 Warehouse and Distribution Center Management
(3-3-0)**

Prerequisite: LMGT 1319 or Departmental Approval

Emphasis on physical distribution and total supply chain management. Includes warehouse operations management, hardware and software operations, bar codes, organizational effectiveness, just-in-time manufacturing, continuous replenishment, and third party.

**LMGT 1393 Special Topics in Logistics and Materials Management –
Transportation Issues
(3-3-0)**

Prerequisite: LMGT 1319 or Departmental Approval

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 provides students the opportunity to explore relevant and changing topics in the logistics field with emphasis on transportation. Based on Internet and current literature research, student present oral presentations for grade on approved transportation topics. Topics include state-of-the-art information technology, equipment, training, recruitment, pricing/costs, facilities, and latest thinking of the industry. The course includes a research paper on an approved transportation topic.

LMGT 1393 Special Topics in Logistics and Materials Management – Logistics Issues**(3-3-0)**

Prerequisite: LMGT 1319 or Departmental Approval

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 provides students the opportunity to explore relevant and changing topics in the Logistics Management field. Group projects, interaction with local industry, class lectures, and case studies, as appropriate, will allow students to understand, appreciate, and apply the information in these topics in their Logistics Management career. The course includes a review and critical analysis of the novel “Precipice” by Daniel Pollock.

LMGT 1393 Special Topics in Logistics and Materials Management – Warehouse Issues**(3-3-0)**

Prerequisite: LMGT 1319 or Departmental Approval

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 provides students the opportunity to explore relevant and changing topics in the logistics field with emphasis on warehousing. Based on internet and current literature research, students present several oral presentation for grade on approved warehouse topics. Topics include state-of-the-art information technology, equipment, training, recruitment, pricing/costs, facilities, and latest thinking of the industry. The course includes a research paper on an approved warehousing/distribution center topic.

LMGT 2330 International Logistics Management**(3-3-0)**

Prerequisite: Departmental Approval

Identification of the principles and practices involved in international distribution systems including the multinational corporation. Attention to global strategic planning, production, supply, manpower/labor, geography, business communications, cultural, political, and legal issues affecting global distribution and firm/host relationships.

LMGT 2334 Principles of Traffic Management**(3-3-0)**

Prerequisite: LMGT 1319 or Departmental Approval

A study of the role and functions of a transportation traffic manager within a commercial or public enterprise. Includes training in rate negotiation, carrier and mode selection, carrier service evaluation, quality control, traffic pattern analysis, documentation for domestic and international shipments, claims, hazardous materials movement, and the state, federal, and international environments of transportation.

MATH 0300 Basic Mathematics**(3-3-2)**

Corequisite: MATH 0100.

Topics include whole numbers including powers, fractions, decimals, ratio and proportion, percents, integers, interpreting charts and graphs, and linear equations involving one operation.

MATH 0301 Introduction to Algebra and Geometry**(3-3-2)**

Prerequisite: MATH 0300 with a grade of “C” or better, or equivalent.

Topics include operations with real numbers, problem-solving, inductive and deductive reasoning, informal geometry, linear equations and inequalities, and introduction to polynomials and exponents.

MATH 0302 Elementary Algebra**(3-3-0)**

Prerequisite: MATH 0301 with a grade of “C” or better, or equivalent.

Topics include real numbers, polynomials, integral exponents, scientific notation, factoring, rational expressions, linear equations and inequalities, graphs of linear equations and inequalities in two variables, systems of linear equations, and solutions of quadratic equations.

MATH 0303 Intermediate Algebra**(3-3-0)**

Prerequisite: MATH 0302 with a grade of “C” or better, or equivalent.

Topics include introduction to relations and functions, factoring, radical expressions and equations, rational exponents, complex numbers, quadratic equations, completing the square, absolute value equations and inequalities, systems of equations, and the use of these concepts in problem-solving.

MATH 1314 College Algebra**(3-3-0)**

Prerequisite: MATH 0303 with a grade of “C” or better, or equivalent.

Graphing calculator required.

Topics include functions, including algebra of functions, composites, inverses, graphs, Remainder Theorem, Factor Theorem, Rational Root Theorem, logarithmic and exponential functions, solving systems of equations using Cramer’s Rule and matrices, the Binomial Theorem, and arithmetic and geometric sequences and series.

MATH 1316 Plane Trigonometry**(3-3-0)**

Prerequisite: MATH 1314 with a grade of “C” or better, or equivalent.

Graphing calculator required.

Topics include circular and trigonometric functions, inverse circular functions, identities, conditional equations, graphs, solutions of triangles, polar coordinates, complex numbers, and vectors.

MATH 1324 Finite Mathematics**(3-3-0)**

Prerequisite: MATH 1314 with a grade of “C” or better, or equivalent.

Graphing calculator required.

Primarily for students of business administration and economics. Topics include combinatorial analysis, probability, matrix algebra, linear inequalities for quantitative management problems involving Baye’s Theorem, mathematical expectation, binomial probability distributions, linear programming by both graphical and simplex methods, Markov chains, and input-output theory.

MATH 1325 Calculus for Business**(3-3-0)**

Prerequisite: MATH 1314 with a grade of “C” or better, or equivalent.

Graphing calculator required.

Topics include limits, continuity, derivatives of polynomials and other algebraic functions, implicit differentiation, higher order derivatives, extrema, logarithmic and exponential functions, definite and indefinite integrals, and applications to business and business-related topics.

MATH 1332 Math for Liberal Arts**(3-3-0)**

Prerequisite: MATH 0303 with a grade of “C” or better, or equivalent, or a score of 230 or higher on the THEA math exam. Graphing calculators required.

This course is designed for non-mathematics and non-science majors who need only three hours of mathematics for their degree requirements. Math 1332 cannot be used as a prerequisite for any other math course nor as part of the six-hour math requirement for an A.S. degree. The course includes topics selected from: sets, logic, number theory, geometry, algebra, personal finance, probability and statistics.

MATH 1348 Analytic Geometry**(3-3-0)**

Prerequisite: MATH 1314 with a grade of “C” or better, or equivalent, and demonstrated knowledge of trigonometry. Graphing calculator required.

Topics include rectangular and polar coordinate systems, conic sections, vectors, transformations, curve sketching, lines and planes in E3, and matrices and linear systems.

MATH 1350 Fundamentals of Mathematics I**(3-3-0)**

Prerequisite: MATH 1314 with a grade of “C” or better, or equivalent

This course is designed specifically for students who seek elementary or middle grade teacher certification. Topics include numeration systems and properties of whole numbers, integers, rational numbers and real numbers with an emphasis on problem solving.

MATH 1351 Fundamentals of Mathematics II**(3-3-0)**

Prerequisite: MATH 1350 with a grade of “C” or better, or equivalent.

Topics include statistics, probability, geometric figures, measurement, transformational geometry and coordinate geometry.

MATH 1442 Elements of Statistics**(4-4-0)**

Prerequisite: MATH 1314 with a grade of “C” or better, or equivalent.

Graphing calculator required.

This course is a non-calculus introduction to statistics with integrated computer applications. Topics include distributions, histograms, exploratory data analysis, measures of location and dispersion, elementary probability functions (binomial, normal, and t-distribution, chi-square distribution), analysis of measurements (confidence intervals and hypothesis testing), analysis of paired data (linear regression and correlation), and the use of pre-packaged programs for the analysis of data.

MATH 2318 Linear Algebra**(3-3-0)**

Prerequisite: MATH 2414 with a grade of “C” or better, or departmental approval.

Graphing calculator required.

Topics include systems of linear equations, matrices and matrix operations, determinants, vectors and vector spaces, inner products, change of bases; linear transformations; and eigenvalues and eigenvectors.

MATH 2320 Differential Equations**(3-3-0)**

Prerequisite: MATH 2414 with a grade of “C” or better, or equivalent.

Graphing calculator required.

Topics include differential equations of first order, linear equations of higher order, applications, introduction to power series methods, elements of the Laplace Transform; other topics include systems of equations and numerical methods.

MATH 2412 Precalculus**(4-4-0)**

Prerequisite: MATH 1314 with a grade of “C” or better, or equivalent.

Graphing calculator required.

Topics include functions, including composites, inverses, and graphs; conic sections; circular and trigonometric functions, inverse circular functions, identities, conditional equations, graphs, solutions of triangles, polar coordinates, complex numbers and vectors; and mathematical induction.

MATH 2413 Calculus I**(4-4-0)**

Prerequisite: The combination of MATH 1316 and MATH 1348 or the single course MATH 2412 with a grade of “C” or better, or equivalent. Graphing calculator required.

Topics include limits, continuity, derivatives of algebraic functions and trigonometric functions, implicit differentiation and higher order derivatives; related rates, Rolle’s Theorem, Mean Value Theorem, velocity, acceleration, curve sketching and other applications of the derivatives; antiderivatives, Riemann sums, definite integrals, Fundamental Theorem of Calculus, area, and derivatives and integrals of exponential and logarithmic functions.

MATH 2414 Calculus II**(4-4-0)**

Prerequisite: MATH 2413 with a grade of “C” or better, or equivalent.

Graphing calculator required.

Topics include derivatives of inverse trigonometric functions, indeterminate forms, L’Hospital’s Rule; techniques of integration, numerical methods, improper integrals, volume, arc length and other applications of integration; parametric equations; derivatives and areas in polar coordinates; and sequences and series.

MATH 2415 Calculus III**(4-4-0)**

Prerequisite: MATH 2414 with a grade of “C” or better, or equivalent.

Graphing calculator required.

Topics include vector calculus, vector valued functions, tangents to curves, velocity vector, curl, partial derivatives, chain rule, gradients, implicit functions, extrema of functions of several variables, multiple integrals including change of order and applications, surface integrals, and path independent line integrals.

MRKG 1301 Customer Relations**(3-3-0)**

Topics address general principles of customer service including skills, knowledge, attitudes, and behaviors pertinent to the professional development of the student.

MRKG 1311 Principles of Marketing**(3-3-0)**

Prerequisite: BMGT 1303

Introduction to the marketing functions; identification of consumer and organizational needs; explanation of economic, psychological, sociological, and global issues; and description and analysis of marketing research.

MRKG 1313 Public Relations**(3-3-0)**

Explain the basic process of public relations and prepare and present an activity using basic public relations principles.

MRKG 2380 Cooperative Education – Business Marketing & Marketing Management**(3-1-20)**

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.

MSCI 1101 Fundamentals of Leadership and Management**(1-1-1)**

Organization of the Army and ROTC, career opportunities for ROTC graduates, and the military as a profession. Customs and traditions of the service. Development of leadership potential, First Aid, and Introduction to Map Reading.

MSCI 1102 Fundamentals of Leadership and Management**(1-1-1)**

Leadership studies of problems facing junior leaders in today's Army in non-combat situations. Effects of technological and sociological change on the military. Continuation of customs and traditions of the service. Development of leadership potential. Basic military skills training.

MSCI 2201 Applied Leadership and Management I
(2-2-1)

Learn/apply ethics-based leadership skills that develop individual abilities and contribute to the building of effective teams of people. Develop skills in oral presentations, writing concisely, planning of events, coordination of group efforts, advanced first aid, land navigation, and basic military tactics. Learn fundamentals of ROTC's Leadership Development Program. Two hours and a required leadership lab, plus required participation in two one-hour sessions for physical fitness. Participation in a weekend exercise is optional, but highly encouraged.

MSCI 2202 Applied Leadership and Management II
(2-2-1)

Military use of maps and terrain analysis with emphasis on practical experiences. Introduction to the leadership techniques required to conduct patrolling, offensive and defensive tactical missions.

MUAP 1100 Accordion – Private
(1-1-1)

A comprehensive study of the performance techniques of the accordion and the different styles of performance such as Tejano, Mariachi, polkas, and waltzes.

MUAP 1101 Violin – Private
(1-1-1)

Technical studies to develop instrumental techniques.

MUAP 1117 Flute – Private
(1-1-1)

Prerequisite: High School Band.

Includes the study of all scales, chromatic, arpeggios, various articulations, and short compositions from standard repertoire.

MUAP 1129 Clarinet – Private
(1-1-1)

Prerequisite: High School Band experience or instructor's permission.

Technical studies to develop instrumental technique. Included will be the Rose studies, the Klose Method, all scales, exercise in various articulations and short compositions from standard clarinet repertoire.

MUAP 1133 Alto-Saxophone – Private
(1-1-1)

Prerequisite: High School Band.

Corequisite: MUEN 1121 – Jazz Ensemble.

Technique will be developed through the study of Voxman's Advanced Method and Selected Studies and major scales and arpeggios.

MUAP 1137 Trumpet – Private
(1-1-1)

Prerequisite: High School Band.

Corequisite: MUSI 1121 – Jazz Band.

Technical studies will include Voxman, all scales and arpeggios in extended register and transposition.

**MUAP 1145 Trombone – Private
(1-1-1)**

Prerequisite: High School Band. Corequisite: MUEN 1121 Jazz Ensemble.

Technique will be developed through the studies of Mantia, Couillard, Rochut, Arbon and exercises in various articulations.

**MUAP 1157 Percussion – Private
(1-1-1)**

Prerequisite: High School Band. Corequisite: MUEN 1121 Jazz Ensemble.

A comprehensive study of the performance techniques of snare drum, and multiple percussion study on drum set and pit drumming.

**MUAP 1161 Bajo Sexto – Private
(1-1-1)**

A comprehensive study of the performance techniques of the bajo sexto: major/minor chords and accompaniment to conjunto rhythms such as polkas, cumbias, waltzes and huapangos.

**MUAP 1181 Beginning Voice/Private Instruction
(1-1-1)**

Open to students without previous vocal experience. Offers the opportunity for the development of the fundamentals of singing.

**MUAP 1182 Elementary Voice/Private Instruction
(1-1-1)**

Prerequisite: MUAP 1181.

Continuation of MUAP 1181. Open to students with previous vocal experience. Offers the opportunity for further development of the fundamentals of singing.

**MUAP 1189 Bass (Private) Development of Bass Techniques
(1-1-1)**

Prerequisite: High School Band. Corequisite MUEN 1121 Jazz Ensemble

Development of bass techniques.

**MUAP 2162 Intermediate Guitar I/Private Instruction
(1-1-1)**

Prerequisite: MUSI 1193.

Continuation of MUSI 1193.

**MUAP 2163 Intermediate Guitar II/Private Instruction
(1-1-1)**

Prerequisite: MUSI 2162.

Continuation of MUSI 2162.

**MUAP 2170 Intermediate Piano I/Private Instruction
(1-1-1)**

Prerequisite: MUSI 1182 or instructor's permission.

Continuation of MUSI 1182.

**MUAP 2171 Intermediate Piano II/Private Instruction
(1-1-1)**

Prerequisite: MUSI 2170 or instructor's permission.

Continuation of MUSI 2170.

MUEN 1121 Jazz Ensemble**(1-0-3)**

Prerequisite: High School Band experience or instructor's permission.

The Palo Alto College Jazz Ensemble will perform standard jazz repertoire. Three hours per week of rehearsal are required. May be repeated up to four semesters for credit.

MUEN 1141 Choir**(1-0-3)**

Group performs a variety of vocal music from all historical periods. May be repeated up to four semesters for credit.

MUEN 1151 Beginning Mariachi Ensemble**(1-0-3)**

The study of mariachi music through vocal and instrumental performance. May be repeated any number of times; however, only four hours will count toward a degree or transfer.

MUEN 1152 Intermediate Mariachi Ensemble**(1-0-3)**

A continuation of MUEN 1151. Develop further vocal and instrumental performance techniques.

MUEN 1153 Advanced Mariachi Ensemble**(1-0-3)**

A continuation of MUEN 1152. The student ensemble "Mariachi Palomino" rehearses and performs for some 30 performances a year. Audition required.

MUEN 1155 Ensemble Conjunto**(1-0-3)**

The study of Conjunto music through vocal and instrumental performance. May be repeated any number of times, however, only four hours will count toward a degree or transfer.

MUEN 1158 Jazz Show Choir**(1-0-3)**

Audition required

Corequisite: MUEN 1141.

The Jazz Show Choir is a select group of singers who rehearse and perform Jazz and popular choral music for a small ensemble. Students should be concurrently enrolled in Choir (MUEN 1141). The ensemble rehearses three hours per week.

MUSI 1163 Improvisation I**(1-1-1)**

Prerequisite: High School Band. Corequisite: MUEN 1121 Jazz Ensemble.

Materials and practices for improvising in the Jazz Idiom.

MUSI 1181 Beginning Piano**(1-1-1)**

Piano class for music majors with no piano skills or for non-music majors who desire to learn the instrument.

**MUSI 1182 Elementary Piano
(1-1-1)**

Prerequisite: MUSI 1181 or Instructor's permission.

Continuation of MUSI 1181.

**MUSI 1192 Beginning Guitar
(1-1-1)**

Guitar class for music majors with no guitar skills, or non-music majors who desire to learn the instrument.

**MUSI 1193 Elementary Guitar
(1-1-1)**

Prerequisite: MUSI 1192 or instructor's permission.

Continuation of MUSI 1192.

**MUSI 1216 Ear Training and Sight Singing I
(2-0-2)**

This course emphasizes ear training, sight singing and keyboard skills.

**MUSI 1217 Ear Training and Sight Singing II
(2-0-2)**

Prerequisite: MUSI 1216.

This course is a continuation of ET & SSI with additional emphasis on dictation, both melodically and harmonically.

**MUSI 1306 Music Appreciation
(3-3-0)**

Introduction to music for the college student. Information and techniques for appreciation: basic elements, major forms, genres and style periods. Some outside attendance at concerts/recitals required.

**MUSI 1308 Introduction to Music Literature
(3-3-0)**

A survey of vocal and instrumental literature, melding forms and representing styles.
FALL ONLY.

**MUSI 1310 American Music – Jazz Appreciation
(3-3-0)**

Surveys the evolution of the art of music as related to jazz; both individual musicians and stylistic details are explored. Emphasis is placed upon critical listening.

**MUSI 1310 American Music – Tejano Appreciation
(3-3-0)**

A basic course in music that introduces the student to musical elements, forms, and stylistic periods. A special concentrated focus will be on Tejano music – its history, main performers, and social/cultural significance. Fulfills Fine Arts requirement.

MUSI 1311 Basic Music Theory I
(3-3-0)

Corequisite: All music majors must enroll in MUSI 1181.

For students with little or no previous training in music. Study includes rudiments of music: notation, intervals, major scales, triads, music vocabulary, elementary ear training and keyboard work.

MUSI 1312 Basic Music Theory II
(3-3-0)

Prerequisite: MUSI 1311 or instructor's permission.

A continuation of MUSI 1311 with emphasis on elementary music theory, ear-training and keyboard work.

MUSI 1386 Composition I
(3-3-0)

Composing in small forms for simple media in both traditional styles and styles of the student's choice.

MUSI 2216 Ear Training and Sight-Singing III
(2-0-2)

Prerequisite: MUSI 1217.

This course includes ear training, sight singing and keyboard work utilizing materials of 18th, 19th, and 20th century music.

MUSI 2217 Ear Training and Sight-Singing IV
(2-0-2)

Prerequisite: MUSI 2216. Corequisite: MUSI 2312.

Ear-training, sight-singing, and keyboard work/materials of Eighteenth, and Twentieth Century music.

MUSI 2311 Music Theory III
(3-3-0)

Prerequisite: MUSI 1312 or instructor's permission.

This sophomore level theory course for music majors includes analytical and composition techniques for Eighteenth, Nineteenth, and Twentieth Century music. Topics will include modulation, chromaticism, modes, and modern music. **Offered Fall Semester Only.**

MUSI 2312 Music Theory IV
(3-3-0)

Prerequisite: Music Theory III – 2311 or instructor's permission.

Continuation of MUSI 2311. MUSI 2217 must be taken concurrently. **Offered Spring Semester Only.**

MUSI 2389 Academic Cooperative in Music
(3-3-0)

An instructional program designed to integrate on-campus study with practical hands-on work experience in music. In conjunction with class seminars, the individual student will set goals and objectives in the study of music and performance.

Beginning in Spring 2005, all PHED classes will become KINE. The Physical Education Department will change its name to Kinesiology, Health and Dance.

PHED 1101 Fencing (See KINE 1132)
(1-1-2)

Students will learn basic foil techniques and footwork. History, rules, scoring systems, and terminology will be learned.

PHED 1102 Adapted Physical Activity (See KINE 1100)
(1-1-2)

This class is designed for physically disabled students. A release/limitation form that describes the student's condition and that contains activity suggestions from the student's doctor is required.

PHED 1103 Beginning Softball (See KINE 1169)
(1-1-2)

Infielder and outfielder techniques, batting, and throwing for distance and accuracy will be taught. Rules for slow-pitch will be emphasized but fast-pitch will also be covered.

PHED 1104 Physical Conditioning (See KINE 1156)
(1-1-2)

This class will work on strength, muscular endurance, flexibility, and cardiovascular fitness. Students will perform weight training, stretching, rope jumping, stationary bike riding, and some running activities in class.

PHED 1105 Beginning Golf (See KINE 1140)
(1-1-2)

Students will learn how and when to use woods and irons. Also to be covered are putting, different scoring systems, rules, and etiquette.

PHED 1106 Weight Training (See KINE 1196)
(1-1-2)

This class will focus on the development of strength and muscular endurance as they relate to overall health related fitness. Strength training theories, hypertrophy, balance, and body composition will be topics for discussion. Some cardiovascular work also will be encouraged.

PHED 1107 Intermediate Weight Training (See KINE 1197)
(1-1-2)

Prerequisite: PHED 1106 or permission of the department.

This course is a continuation of PHED 1106. Students will learn and practice advanced concepts such as circuit training and sports-specific training.

PHED 1108 Beginning Bowling (See KINE 1122)
(1-1-2)

This course is to introduce basic bowling skills. Students will learn grips, approaches, releases, rules, history, scoring, and equipment selection use, and care.

PHED 1109 Spin Bike I (See KINE 1171)
(1-1-2)

This course is group exercise class designed to improve individualized cardiovascular fitness with the use of stationary bicycles.

PHED 1110 Spin Bike II (See KINE 1172)
(1-1-2)

This course is an advanced cardiovascular conditioning class using stationary bicycles.

PHED 1111 Intermediate Fencing (See KINE 1133)
(1-1-2)

Prerequisite: PHED 1101 or permission of the department.

This class is for students with credit in Beginning Fencing or equivalent experience. Basic skills will be reviewed and refined. New and advanced skill will be introduced.

PHED 1112 Yoga (See KINE 1198)
(1-1-2)

Yoga introduces the student to the philosophy and practice of various types of yoga, including Hatha Yoga, power yoga, yoga for fitness, and yoga for conditioning as a way to enhance physical, mental and spiritual well-being.

PHED 1113 Beginning Basketball (See KINE 1116)
(1-1-2)

This is a skill development class for beginners. Students will work daily on drills and activities designed to increase skills in passing, dribbling, ball handling, defense, and shooting. Team skills will be learned after fundamentals are mastered.

PHED 1114 Intermediate Basketball (See KINE 1117)
(1-1-2)

Prerequisite: PHED 1113 or permission of the instructor.

This course is a continuation of PHED 1113 and will focus on the development of increased individual skills as well as introducing team strategies and techniques.

PHED 1115 Beginning Tennis (See KINE 1183)
(1-1-2)

This class is for true beginners and others with no previous instruction in tennis. Court movements, grips, forehand and backhand ground strokes, volleys, and serves will be covered.

PHED 1116 Intermediate Tennis (See KINE 1184)
(1-1-2)

This class is designed for students with credit for Beginning Tennis or who have competitive experience. Stroke refinement, game strategies, and advanced drills will be included.

PHED 1117 Beginning Volleyball (See KINE 1190)
(1-1-2)

The student in this class will learn forearm pass, overhead pass, and overhead serve. Individual and paired drills, lead-up games, and conditioning activities will prepare students for competition.

PHED 1118 Intermediate Volleyball (See KINE 1191)
(1-1-2)

Prerequisite: PHED 1117 or permission of the instructor.

This course is for students with credit for Beginning Volleyball or previous competitive experience. Basic skills will be reviewed and tested as well as spiking, blocking, team offense, and team defense strategies.

**PHED 1119 Intermediate Yoga (See KINE 1199)
(1-1-2)**

This course is a continuation of PHED 1112 and includes the philosophy and practice of various types of yoga, including Hatha Yoga, power yoga, yoga for fitness, and yoga for conditioning as a way to enhance physical, mental and spiritual well-being. Additional concepts and techniques will build on those learned in PHED 1112.

**PHED 1120 Walking (See KINE 1192)
(1-1-2)**

Students will learn about health-related physical fitness, monitoring their effort and progress, building a personal fitness plan for walking.

**PHED 1121 Advanced Basketball (See KINE 2116)
(1-1-2)**

This course provides for further development of advanced basketball skills and strategies. Emphasis is placed on team offense and defense concepts and techniques.

**PHED 1123 Intermediate Golf (See KINE 1141)
(1-1-2)**

Intermediate golf skills, techniques and strategies are the focus of this class. Students will engage in play at a certified golf course. This course is offered off campus.

**PHED 1124 Intermediate Water Aerobics (See KINE 1195)
(1-1-2)**

Additional exercises designed to increase cardiovascular fitness, flexibility, strength and muscular endurance.

**PHED 1125 Camping and Backpacking (See KINE 1124)
(1-1-2)**

Hiking, orienteering, packing, camping, and survival skills will be discussed and practiced. A weekend trip may be required.

**PHED 1126 Private – Fencing I (See KINE 2133)
(1-1-2)**

This course provides individual instruction in the basic fundamentals of movement and simple offense and defense with foil, as well as explanation of rules of foiling fencing.

**PHED 1128 Advanced Fencing (See KINE 2132)
(1-1-2)**

This course is a continuation of PHED 1111, which provides advanced levels of fencing techniques and introduces basic fundamentals of directing and judging fencing.

**PHED 1129 Beginning Swimming (See KINE 1173)
(1-1-2)**

This is a class for students with no water experience, fear of the water, and/or no previous instruction in the following strokes: elementary backstroke, sidestroke, breaststroke, back crawl, and front crawl. Water orientation, floating, and gliding practice will lead up to stroke instructions.

PHED 1130 Beginning Soccer (See KINE 1165)
(1-1-2)

This is a basic level class. Beginning skills such as ball control, dribbling, passing, shooting, and defense will be practiced. Students will learn the rules and history of the sport.

PHED 1131 Intermediate Swimming (See KINE 1174)
(1-1-2)

Students who register for this class should be able to demonstrate skills on elementary backstroke, sidestroke, breaststroke, back crawl, and front crawl. Strokes to be introduced are: inverted breaststroke, lifesaving stroke, butterfly, and racing strokes. Water safety, basic rescue, and survival techniques will also be taught.

PHED 1132 Lifesaving (See KINE 1150)
(1-1-2)

Students registered for this class should be able to demonstrate all the strokes taught in beginning and intermediate swimming, as well as be able to swim 800 meters of freestyle laps without stopping. Successful completion of this class should qualify students to apply for Red Cross certification.

PHED 1134 Aquatic Conditioning (See KINE 1109)
(1-1-2)

This is a class for good swimmers who want to use swimming as a cardiovascular fitness activity. Training regimen for fitness, endurance swimming, and competition will be learned and practiced.

PHED 1135 Water Aerobics (See KINE 1194)
(1-1-2)

Exercises designed to increase cardiovascular fitness, flexibility, strength, and muscular endurance will be performed in shallow areas of the pool. This is a good class for overweight students with joint problems, and students who want a pool based class that does not involve swimming.

PHED 1136 Beginning Scuba (See KINE 1164)
(1-1-2)

Students will learn about selection, care, and use of equipment. Safety, underwater movements, and other topics will be learned and practiced.

PHED 1137 Triathlon Training (See KINE 1187)
(1-1-2)

Training theories and skill techniques for running, biking, and swimming will be learned and applied. Related factors such as nutrition, weight training, combination workouts, and competition skills also will be covered. Some experience is helpful but not mandatory. Students must provide their own bicycles.

PHED 1139 Ballet Folklorico II (See KINE 1115)
(1-1-2)

Continued and more advanced instruction and participation in Ballet Folklorico dance technique.

PHED 1140 Beginning Aerobics (See KINE 1104)
(1-1-2)

This is an exercise-to-music class that could include any of the following: dance aerobics, sports moves aerobics, step aerobics, stretching, strength work, and muscular endurance work. Activities will be presented progressively. Fitness principles will be learned and practiced.

PHED 1141 Intermediate Aerobics (See KINE 1105)
(1-1-2)

Many of the same activities utilized in beginning aerobics also will be used in this class, but will start at a higher level. Additionally, students will apply exercise principles in developing a workout routine to be presented in class.

PHED 1142 Cardio-Kickboxing (See KINE 1126)
(1-1-2)

This course is designed to develop cardiorespiratory fitness, muscular endurance, flexibility and body composition through the use of combined kickboxing and aerobic activity. Hand weight, jump ropes and traditional floor work routines will be included in regular circuit, and interval workouts. Concepts of exercise and proper nutrition for a lifetime of health and weight management will also be discussed.

PHED 1143 Intermediate Cardio-Kickboxing (See KINE 1127)
(1-1-2)

Prerequisite: PHED 1142 or permission from department

This course is designed to develop cardiorespiratory fitness, muscular endurance, flexibility and body composition through the use of combined kickboxing and aerobic activity. Hand weight, jump ropes and traditional floor work routines will be included in regular circuit, and interval workouts. Concepts of exercise and proper nutrition for a lifetime of health and weight management will also be discussed.

PHED 1144 Social Dance (See KINE 1167)
(1-1-2)

This course will introduce the student to a variety of popular, social, and traditional social dances including Latin dances, swing, jitterbug, hip-hop, and country western.

PHED 1145 Modern Dance I (See KINE 1152)
(1-1-2)

Introduction and participation in Modern Dance. Students in this course will explore movement as an art form to achieve grace, poise, and self-expression. Fundamental movement patterns and dance composition will be part of course content.

PHED 1146 Modern Dance II (See KINE 1153)
(1-1-2)

Prerequisite: PHED 1145 or permission from department

Continued instruction and participation in Modern Dance. An understanding of time, space, energy, and focus in dance performance is emphasized. Students will further develop critical response skills and understanding of composition and aesthetics.

PHED 1147 Jazz Dance (See KINE 1144)
(1-1-2)

Students will learn how to jazz dance warm-up and cool-down and movement combinations with a focus on alignment, ensemble work, and musicality. As an activity class, each student should be prepared to participate to the best of his/her ability fully in each class session.

PHED 1149 Ballet I (See KINE 1112)
(1-1-2)

Instruction and participation in Ballet. Students will learn how to do a ballet warm-up and cool down and dance combinations. As an activity class, each student should be prepared to participate to the best of his/her ability fully in each class session.

PHED 1150 Beginning Jogging (See KINE 1146)
(1-1-2)

Students will learn how to use aerobic running in a fitness plan. Health-related fitness components, safety, injury prevention, and training system will be taught.

PHED 1152 Ballet Folklorico I (See KINE 1114)
(1-1-2)

Instruction and participation in Ballet Folklorico dance technique. This class introduces students to footwork techniques emphasizing fundamentals of body placement, vocabulary, and regions in Mexico Folklorico Dance. Students will develop dance combinations to enhance technical skills, memory and performance qualities.

PHED 1155 Varsity Athletics (See KINE 1189)
(1-1-2)

Prerequisite: Permission from instructor is necessary before enrollment.

Students will learn training systems and techniques appropriate for various events in one particular sport. Participation in practice sessions and competitions is required.

PHED 1160 Ballet II (See KINE 1113)
(1-1-2)

Continued instruction and participation in ballet technique. Students will build on classical ballet techniques learned in ballet including barre, allegro, adagio, center floor combinations.

PHED 1170 Flag Football I (See KINE 1136)
(1-1-2)

This course is designed to teach the basics of passing, catching and kicking as well as other basic fundamentals of football. Students will also study the rules and basic strategy and will be able to participate in games.

PHED 1238 Physical Fitness (See KINE 1238)
(2-2-0)

This course introduces physical fitness concepts and the use of selected physiological variables of fitness. Suitable fitness program will be explored.

PHED 1301 Introduction to Physical Education (See KINE 1301)
(3-3-0)

This course, intended for physical education majors, is an orientation to the field of Health, Physical Education, and Recreation including the history, philosophy, fundamentals, current practices, and trends of profession. Career opportunities will be explored.

PHED 1304 Personal/Community Health (See KINE 1304)
(3-3-0)

This course will investigate relationships among infectious disease, chronic disease, safety, and lifestyle factors in personal health. Government programs and policies, health care provision agencies, types of insurance, and current areas of interest in public health will be studied.

PHED 1305 Personal/Community Health II (See KINE 1305)
(3-3-0)

The principles of health as they relate to individual people and the community. Course includes epidemiology, health through the lifespan, and assessment and implementation of health programs in the community.

PHED 1306 First Aid (See KINE 1306)
(3-3-0)

Students will learn Adult CPR and basic care techniques for injuries, burns, and poisoning. Upon successful completion of this course, students will earn Red Cross First Aid and CPR certification.

PHED 1308 Intramurals and Officiating (See KINE 1308)
(3-3-0)

The student will develop competency in designing, organizing, and promoting intramural programs. Emphasis on officiating techniques and procedures in various activities will be explored.

PHED 1321 Coaching/Sports/Athletics I (See KINE 1321)
(3-3-0)

Survey of the history, theories, philosophies, rules, and terminology of competitive sports. Includes developmentally appropriate coaching techniques and sports psychology.

PHED 1322 Coaching/Sports/Athletics II (See KINE 1322)
(3-3-0)

This course examines in depth four of the eight domains of the National Standards for Athletic Coaches: Training, Conditioning and Nutrition; Social/Psychological Aspects of Coaching; Skills, Tactics and Strategies; and Teaching and Administration. Other domains are also introduced. Students will also become familiar with UIL and NCAA eligibility rules.

PHED 1331 Physical Education in the Elementary Grades (See KINE 1331)
(3-3-0)

This is a course in materials, methods and activities in physical education programs in elementary schools. The needs and interests at different grade levels are stressed.

PHED 1332 Movement Experience for Pre-School Children (See KINE 1332)
(3-3-0)

This course meets the needs of those interested in movement and play for the pre-school child. Methods of learning, values of play, development of the child and organization of the environment are stressed.

PHED 1346 Substance Abuse (See KINE 1346)
(3-3-0)

Students will examine the use and abuse of drugs in today's society. Emphasis will include physiological changes that occur, biochemical reactions, and brain triggers involved in substance abuse. Also included are psychological factors.

PHED 2101 Skill Analysis – Individual Activity (See KINE 2101)
(1-1-2)

Specialized activity instruction involving skills, drills, rules, regulations, and skill performance in a variety of selected individual activities.

PHED 2102 Skill Analysis – Dual Activity (See KINE 2102)
(1-1-2)

Specialized activity instruction involving skills, drills, rules, regulations, and skill performance in a variety of selected dual activities.

PHED 2103 Skill Analysis – Team Sport (See KINE 2103)
(1-1-2)

Specialized activity instruction involving skills, drills, rules, regulations, and skill performance in a variety of selected team activities.

PHED 2303 Dance Appreciation (See DANC 2303)
(3-3-0)

This course introduces the student to dance as a universal form of human expression and surveys dance forms as they have developed throughout history and around the world. Comparisons are made between dance and other art forms in a cultural context.

PHED 2356 Care and Prevention of Athletic Injuries (See KINE 2356)
(3-3-0)

Prevention and care of athletic injuries with emphasis on qualities of a good athletic trainer, avoiding accidents and injuries, recognizing signs and symptoms of specific sports injuries and conditions, immediate and long-term care of injuries, and administration procedures in athletic training.

PHIL 1301 Introduction to Philosophy
(3-3-0)

This course investigates the fundamental questions of reality. It explores the meaning of life, truth, freedom, the existence of God, and social and political theory.

PHIL 1304 Major World Religions
(3-3-0)

This course is a comparative introduction to the origins, development, teachings and practices of the major world religions. Included are such faiths as Taoism, Confucianism, Hinduism, Buddhism, Judaism, Christianity, and Islam.

**PHIL 2303 Logic
(3-3-0)**

This course is an introduction to the art and science of reasoning well. It explores the difference between good and bad arguments through various tools, techniques, and principles.

**PHIL 2306 Ethics
(3-3-0)**

This course examines the questions of morality from theoretically diverse perspectives. Theories are applied to moral and social issues, with an emphasis on moral reasoning and decision making.

**PHIL 2371 Business Ethics
(3-3-0)**

This course is an examination of principles of moral conduct from theoretically diverse perspectives, with an emphasis on issues that guide behavior in the world of business. Specific problems to be considered include topics such as corporate responsibility, employee rights, the nature of the free enterprise system, environmental concerns, and ethical business practices.

**PHTC 1349 Photo Digital Imaging I
(3-3-0)**

A studio course, which uses the computer as an electronic darkroom. The course builds on the student's experience with raster-based editing/manipulation software with a focus on using digital photography as a fine arts medium. Topics include color and gray scale images and image conversion and presentation.

**PHYS 1401 General Physics I
(4-3-3)**

Prerequisite: MATH 1316 (Plane Trigonometry) or permission of the department.

For those preparing to enter medicine, dentistry, nursing, pharmacy, architecture, and for those who require a two-semester technical course in physics. Mechanics, sound, heat, and their applications. Must be followed by PHYS 1402 to satisfy a science requirement.

**PHYS 1402 General Physics II
(4-3-3)**

Prerequisite: PHYS 1401.

Topics to be included: electricity, magnetism, light, and atomic nuclear physics.

**PHYS 1405 Introductory Physics I
(3-3-0)**

Prerequisite: MATH 0303 or equivalent.

This course stresses the importance of science in the modern world, while not requiring a mathematical background beyond algebra. Topics include mechanics, heat, and sound.

**PHYS 1407 Introductory Physics II
(3-3-0)**

Prerequisite: PHYS 1405.

Topics to be covered include electricity and magnetism, light, and atomic nuclear physics. Laboratory experience is part of the course.

PHYS 2425 University Physics I
(4-3-3)

For pre-engineering and physics majors or minors. The principles and applications of mechanics, heat, and fluids are covered through an analytic, problem-solving procedure.

PHYS 2426 University Physics II
(4-3-3)

Prerequisite: PHYS 2425

For pre-engineering and physics majors or minors. The principles and applications of electricity and magnetism, wave phenomena, and some topics in modern physics are investigated.

POFI 1301 Computer Applications I
(3-3-1)

Recommended: Keyboarding proficiency

Overview of computer office applications including current terminology and technology. Introduction to computer hardware, software applications, and procedures.

POFI 1341 Computer Applications II
(3-2-3)

Prerequisite: POFI 1301 or equivalent

Continued study of current computer terminology and technology. Advanced skill development in computer hardware, software applications, and procedures.

POFI 1349 Spreadsheets
(3-3-1)

In-depth coverage in the use of a spreadsheet software application.

POFI 2301 Word Processing
(3-2-3)

Prerequisite: POFT 2301 with a grade of "C" or better

In-depth coverage of word processing software application.

POFI 2331 Desktop Publishing for the Office
(3-3-1)

Recommended: Typing speed of 40 wpm and some word processing skills

In-depth coverage of desktop publishing terminology, text editing, and use of design principles to create publishing features. Emphasis on layout techniques, graphics, and multiple page displays.

POFL 1305 Legal Terminology
(3-3-0)

An introduction to legal terminology, including spelling, pronunciation, and definition of legal terms and an overview of the law and the professions.

POFM 1313 Medical Terminology I
(3-3-0)

Instruction in the practical application of a medical vocabulary system. Topics include structure; recognition; analysis; definitions; spelling; pronunciation; and combination of medical terms from prefixes, suffixes, roots, and combining forms.

**POFT 1301 Business English
(3-3-0)**

Introduction to a practical application of basic language usage skills with emphasis on fundamentals of writing and editing for business.

**POFT 1307 Proofreading and Editing
(3-3-0)**

Instruction in proofreading and editing skills necessary to assure accuracy in business documents.

**POFT 1309 Administrative Office Procedures I
(3-3-0)**

Recommended: Basic keyboarding skills

Study of current office procedures, duties and responsibilities in an office environment.

**POFT 1313 Professional Development for Office Personnel
(3-3-0)**

Preparation for the work force including ethics, interpersonal relations, professional attire, and career advancement.

**POFT 1319 Records and Information Management I
(3-3-0)**

Introduction to basic records and information management. Includes the life cycle of a record, manual and electronic records management, and basic filing procedures and rules.

**POFT 1328 Business & Professional Presentations
(3-3-0)**

Skill development in planning and conducting business presentations on an individual and/or group basis including communication and media skills.

**POFT 1329 Keyboarding and Document Formatting (Non-Majors)
(3-3-0)**

Skill development in the operation of the keyboard by touch, applying proper keyboarding techniques. Emphasis on development of acceptable speed (25 wpm) and accuracy (5 or less errors) levels and formatting basic documents.

**POFT 1331 Business Machine Applications
(3-3-0)**

Skill development in the operation of machines used in a business environment. Emphasis on the development of skills in using electronic calculators and other office machines.

**POFT 1345 Shorthand/Notetaking I
(3-2-3)**

Prerequisite: Basic document production proficiency

An introduction to shorthand/notetaking principles. Practice in accurate reading and writing of notes to produce mailable documents from dictation.

POFT 1349 Administrative Office Procedures II
(3-2-3)

Prerequisite: POFT 1309 or equivalent competencies.

In-depth coverage of office applications with special emphasis on decision making, goal setting, management theories, and critical thinking.

POFT 1429 Keyboarding and Document Formatting (Majors)
(4-2-3)

Skill development in the operation of the keyboard by touch applying proper keyboarding techniques. Emphasis on development of acceptable speed (35 wpm) and accuracy (5 or less errors) levels and formatting basic documents.

POFT 2301 Document Formatting and Skillbuilding
(3-2-3)

Prerequisite: POFT 1329 or POFT 1429 or equivalent

A continuation of keyboarding skills in document formatting, speed, and accuracy. Emphasis on proofreading, editing, and following instructions, and keying documents from various copy. A minimum speed of 45 wpm with five or less errors is required on 5-minute timed writings.

POFT 2303 Speed and Accuracy Building
(3-3-0)

Review, correct, improve, and/or perfect touch keyboarding techniques for the purpose of increasing speed and improving accuracy.

POFT 2312 Business Correspondence and Communications
(3-3-0)

Prerequisite: POFT 1301 or equivalent.

Development of writing skills to produce effective business documents.

POFT 2321 Machine Transcription
(3-2-3)

Prerequisite: POFT 2301 and POFT 1301 or equivalent

Skill development in mailable business document production using computers and transcription equipment. Skill refinement in grammar and punctuation with emphasis on proofreading and formatting.

POFT 2333 Advanced Document Formatting and Skillbuilding
(3-2-3)

Prerequisite: POFT 2301 or equivalent

Study of advanced concepts in a variety of office-simulated correspondence activities with emphasis on organization, prioritizing, decision making, composition, placement, accuracy, and speed development. A minimum exit speed of 50 wpm with five or less errors is required on 5-minute timed writings.

POFT 2343 Shorthand/Notetaking II
(3-2-3)

Prerequisite: POFT 1345

A continuation of shorthand/notetaking principles with advanced mastery of accurate reading and writing of notes to produce mailable documents from dictation. Minimum dictation speed at completion of course is 80-wpm for 3 minutes with 97% accuracy.

POFT 2380 Cooperative Education-Administrative Assistant/Secretarial Science, General (3-1-20)

Prerequisite: Approval of workstation by instructor/coordinator

Career-related activities encountered in the student's area of specialization are offered through a cooperative agreement among the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

PSYC 2301 Introduction to Psychology (3-3-0)

Psychology is the scientific study of behavior and mental processes. Topics include theoretical perspectives, scientific method, brain and nervous system, perception, behavioral conditioning, memory, thinking, human development, and personality. Psychotherapy, social psychology, and the types and causes of mental illness are also covered.

PSYC 2306 Human Sexuality (3-3-0)

This course is the study of the physiological, psychological, anatomical and sociocultural aspects of human sexuality. Topics included are the patterns and control of fertility, sexual orientation and behavior, sexually-transmitted diseases, sexual problems and deviance, and the achievement of a positive sexual self-concept.

PSYC 2307 Adolescent Psychology I (3-3-0)

Study of the relationship of the physical, emotional, social and mental factors of growth and development of children and throughout the lifespan.

PSYC 2308 Developmental Psychology: Conception Through Childhood (3-3-0)

Prerequisite: PSYC 2301.

This course is a study of cognitive, psychological, and physical aspects of development from conception through the school years with emphasis on current research methods and results.

PSYC 2314 Developmental Psychology: Life Span (3-3-0)

Prerequisite: PSYC 2301.

This course is a study of maturational, social, emotional, cognitive, neurological, perceptual, sexual, and behavioral factors in human development.

PSYC 2316 Psychology of Personality (3-3-0)

Prerequisite: PSYC 2301.

This course is a review of the major theories of personality and of the various techniques used to assess personality.

PSYC 2317 Statistics for the Behavioral Sciences**(3-3-0)**

Prerequisite or Corequisite: MATH 0303.

This course is a study of basic descriptive and inferential statistics to include hypothesis testing for both correlational and experimental techniques applicable to the behavioral, social, and medical sciences. Probability, sampling theory, frequency distributions, measures of central tendency and variability, and hypothesis testing will be explored as well as various parametric and nonparametric tests of significance. This course will not fulfill mathematics requirements. It is recommended for behavioral science and allied health majors.

PSYC 2319 Social Psychology**(3-3-0)**

Study of individual behavior within the social environment. May include topics such as the socio-psychological process, attitude formation and change, interpersonal relations, and group processes.

PSYC 2370 Abnormal Psychology**(3-3-0)**

Prerequisite: PSYC 2301.

This course is a study of the description, current classifications, etiology, and treatment of major psychological disorders, including both functional and organic disorders.

PSYC 2371 Theories of Learning**(3-3-0)**

Prerequisite: PSYC 2301.

This course is an examination of major theories about the nature of the learning process. Discussion will focus on the construction and evaluation of learning models. The practical implications of theoretical findings for the acquisition, maintenance, and elimination of behavior will be considered.

PSYT 1303 Dynamics of Human Relations**(3-3-0)**

Discussion of the dynamics necessary for developing and maintaining positive/productive interpersonal and work relationships.

QCTC 1301 Total Quality Management**(3-3-0)**

The study of integrating work processes using team participation through employee empowerment and teamwork emphasizing the philosophy of customer service and satisfaction.

QCTC 1303 Quality Control**(3-3-0)**

Information on quality control principles and applications. Designed to introduce the student to the quality control profession.

QCTC 1305 Teaming**(3-3-0)**

A study in group dynamics, synergy, team building, consensus decision-making, active listening skills, win/win resolution, confrontation skills, creativity, and brainstorming. Examination of team presentation skills, overall team communication, and resolving personality conflicts.

QCTC 1343 Quality Assurance**(3-3-0)**

Information on quality assurance principles and applications; designed to introduce the student to the quality assurance profession.

QCTC 1391 Special Topics: ISO 9001**(3-3-1)**

This course is the introduction to the concept of ISO 9000 Quality Management Systems. This course will cover the fundamentals of the Quality Management System and will specify the terminology for a compliant Quality Management System. The practical application of the ISO 9001:2000 Requirement Standard. Promotes the adoption of a process approach when designing and implementing a Quality Management System, taking into account the mission, product, processes and size of the organization. Conduct internal audits on the ISO 9001:2000 Quality Management System to assure compliance to industry standard. Uses practical methods of identifying non-compliances and documenting corrective actions. Audits are an integral part of the ISO 9001:2000 Standard.

RBTC 1305 Robotic Fundamentals**(3-2-4)**

An introduction to flexible automation. Topics include installation, repair, maintenance, and development of flexible robotic manufacturing systems.

READ 0300 Reading I**(3-3-2)**

Designed for students reading between the 6th and 9th grade level and needing additional review, refinement and reinforcement of basic reading skills. Word recognition, vocabulary development, comprehension, fluency, and study skills are stressed. Three lecture hours per week plus weekly laboratory activities are required. **Students must earn a minimum grade of C in READ 0300 before being permitted to enroll in READ 0301.**

READ 0301 Reading II**(3-3-2)**

Designed for students reading between the 9th and 12th grade level. Pertinent vocabulary, specific textbook comprehension, main idea, writer's intent, organization of ideas, and critical reasoning are stressed. Strong emphasis on study skills. Three lecture hours per week plus weekly laboratory activities are required. **Students must earn a minimum grade of C in READ 0301 before being permitted to enroll in courses requiring college-level reading skills.**

RTVB 1317 Survey of Electronic Media**(3-3-0)**

Study of the broadcast and cable industry, the history of the broadcast and cable industries, the operation of radio and TV stations, cable facilities, programming practices of radio, and Federal Communication Commission (FCC) organization and career opportunities in broadcasting and cable industry.

SDEV 0100 Strategies for Succeeding in College**(1-1-0)**

This course is designed to provide students with a variety of experiences and information which can help them adjust to college life and help make their experiences in college more successful. It helps students understand the institution's expectations of them. Emphasis is placed on information about college policies and procedures as well as personal development.

**SDEV 0101 Career and Life Planning
(1-1-0)**

Designed to assist the undecided student in establishing academic and career goals. This is an application course to guide the student through the goal-setting and decision-making process in order to set realistic academic and career goals necessary for being successful in college.

**SDEV 0102 Enhancing Academic Success
(1-1-0)**

This course is designed for the academically at-risk student needing to improve his or her study and time management skills. Emphasis is placed on time planning, note-taking, test-taking, and various study techniques.

**SGNL 1301 Beginning Sign Language Basic I (formerly SPCH 1373)
(3-3-0)**

Introduction to American Sign Language. Emphasis will be placed on acquiring visual receptive skills and basic communication using the direct experience method. Aspects of Deaf culture and community will be incorporated. (May be taken for foreign language credit.)

**SGNL 1302 Beginning Sign Language Basic II (formerly SPCH 1374)
(3-3-0)**

Prerequisite: SNGL 1301

A continuation of SGNL 1301. Further development of receptive, expressive, and basic conversational skills as well as the cultural features of the language. (May be taken for foreign language credit.)

**SGNL 1304 American Sign Language (ASL): Beginning I
(3-3-1)**

An introduction to the basic skills in production and comprehension of American Sign Language (ASL). Includes the manual alphabet and numbers. Develops conversational ability, culturally appropriate behaviors, and exposes students to ASL grammar.

**SOCI 1301 Introduction to Sociology
(3-3-0)**

This course is designed to achieve insights into the development and workings of society. It includes cultural factors which underlie social change, social organization, socialization, stratification, social institutions, and social issues.

**SOCI 1306 Contemporary Social Problems
(3-3-0)**

This course is a survey of some of the major social problems of present society: poverty, drug abuse, alcoholism, prejudice, discrimination, family disorganization, mental illness, energy sources, environmental abuse, sexual deviance, and unemployment.

**SOCI 2301 Marriage and the Family
(3-3-0)**

This course is a practical approach to the institution of marriage and family. It includes examination and analysis of divorce, human sexuality, sex roles, mate selection, marital adjustment, family patterns in the middle and the later years, and family disorganization.

**SOCW 2361 Introduction to Social Work
(3-3-0)**

This course is an introduction to the history, philosophy, and practice of social work. It examines case work, group work, and community organization.

**SOCW 2362 Introduction to Social Welfare
(3-3-0)**

Prerequisite: SOCW 2361.

This course studies the role of the social worker as well as social welfare in American society with emphasis on evaluation of current programs.

**SPAN 1300 Beginning Conversational Spanish I
(3-3-0)**

For students with little or no knowledge of Spanish. Development of the skills required to speak Spanish: conversation and the study of idiomatic expressions, basic grammatical structures, and culture. Does not fulfill degree requirements.

**SPAN 1310 Beginning Conversational Spanish II
(3-3-0)**

Prerequisite: SPAN 1300.

A continuation of SPAN 1300. Does not fulfill degree requirements.

**SPAN 1411 Elementary Spanish I
(4-3-2)**

For students with little or no knowledge of Spanish. An introduction to the four basic skills: listening comprehension, oral production, reading, and writing. Pronunciation, grammar, and practical vocabulary will be introduced. Language laboratory required.

**SPAN 1412 Elementary Spanish II
(4-3-2)**

Prerequisite: SPAN 1411 or Departmental approval.

A continuation of SPAN 1411. Language laboratory required.

**SPAN 2311 Intermediate Spanish I
(3-3-0)**

Prerequisite: SPAN 1412 or placement test

Conducted primarily in Spanish, this course provides an approach to the Hispanic culture. A review of Spanish grammar, the expansion of basic language skills, and readings of more advanced texts with a view toward Spanish and Latin American cultures are included.

**SPAN 2312 Intermediate Spanish II
(3-3-0)**

Prerequisite: SPAN 2311

A practical approach to reading literature in Spanish is provided. Conducted primarily in Spanish, the fine points of Spanish grammar and a survey of literary selections from the Hispanic world are covered.

**SPAN 2316 Career Spanish I
(3-3-0)**

Prerequisite: Elementary Spanish I and Elementary Spanish II or its equivalent

This third semester course presents realistic situations and the specialized vocabulary for business and finance professionals to communicate with members of the Hispanic community (local/global) in the course of their daily work.

**SPAN 2317 Career Spanish II
(3-3-0)**

A continuation of career Spanish 2316. Emphasis on advanced oral and written communication related to technology, marketing, and the Internet for conducting business transactions.

**SPCH 0301 Oral Communication Skills
(3-3-0)**

Development of speaking, listening, nonverbal communication skills for situations at home, school, and work. Emphasis on using communication skills to build self-confidence and reduce nervousness in oral presentations.

**SPCH 0302 Intermediate Conversational English for Non-Native English Speakers
(3-3-0)**

This course is designed to provide extensive oral practice in spoken English. The focus is on oral construction of sentences, idioms, and conversational speech in everyday situations and occasion-specific situations. This course should be taken after SPCH 0370 and 0371 or with departmental permission..

**SPCH 0303 Public Speaking for Non-Native Speakers of English
(3-3-0)**

This course is designed to be a public speaking preparatory course for non-native speakers of English. The focus is to develop the skills necessary in a formal speaking situation as well as teach techniques used to deal with speaking anxiety. This course should be taken after SPCH 0370, 0371, and 0302 or with departmental permission and before entering the SPCH 1311 (Fundamentals of Speech) course required for most degree plans.

**SPCH 0370 Pronunciation I for the Non-Native Speakers of English
(3-3-0)**

Specifically designed to enhance the oral competency of non-native English speakers. The focus is on English sounds, the stress patterns used in English and pronunciation.

**SPCH 0371 Pronunciation II and Beginning Conversational English for Non-Native English Speakers
(3-3-0)**

Prerequisite: SPCH 0370 or counselor/faculty recommendation.

Continuation of SPCH 0370 for students wanting additional work, with emphasis on practice in conversational English.

SPCH 1311 Fundamentals of Speech**(3-3-0)**

Aimed at understanding and demonstrating the fundamentals of oral communication and participation in group speaking situations. Focus is on critical thinking skills and preparing and delivering different types of speeches.

SPCH 1315 Public Speaking**(3-3-0)**

Prerequisite: SPCH 1311, SPCH 1321, or consent of the instructor.

Designed for students wanting to continue their work in public speaking. Course concentrates on refining techniques of speaking and critical thinking skills learned in the prerequisite course. Possible areas for practice include persuasion techniques and theories, longer informative presentations, and specialty speeches. Appropriate for students entering the fields of Speech, Communication, or Public Relations.

SPCH 1318 Interpersonal Communication**(3-3-0)**

Designed for the student wanting to improve communication skills in one-to-one settings and small groups. A study and practice of effective interpersonal concepts and techniques. Includes subjects such as listening, assertive communication, conflict resolution, cultural diversity, and gender/family communications. Emphasis on self-improvement, building confidence, and understanding others. **Offered Fall Semester only.**

SPCH 1321 Business and Professional Speech**(3-3-0)**

Designed to provide students with the fundamentals and techniques of business and professional presentations. Study of organizational communication and the types of communication used in business settings. Includes critical thinking skills, interviewing, group process, and formal presentations.

SPCH 1342 Voice and Articulation**(3-3-0)**

A practical course designed to develop an understanding of the use and function of the voice, as well as provide individual instruction in pronunciation and articulation to facilitate oral communication. Recommended for communication, education, drama, radio/TV/film, speech and voice majors. (Same as Drama 2336.)

SPCH 2341 Oral Interpretation**(3-3-0)**

The study of the principles and techniques used in the analysis and oral performance of literature. Recommended for elementary education, drama, speech, and English majors preparing to teach literature.

SPNL 1342 Business Spanish (Logistics)**(3-3-0)**

Prerequisite: LMGT 1319 and SPAN 2311 or Departmental approval

Development of Spanish oral and written communication skills related to the business environment including medical, business, commercial, and legal terminology, including a review of basic Spanish grammar. This course concentrates on the business logistics environment to include materials management (manufacturing), physical distribution (transportation and warehousing), and import/export terminology.

TRVM 1300 Introduction to Travel and Tourism**(3-3-0)**

An overview of the travel and tourism industry. Emphasis on travel careers and the impact of tourism on society.

VTHT 1125 Pharmacological Calculations**(1-1-0)**

Prerequisite: VTHT 1341, VTHT 2217, VTHT 2305, VTHT 2331

Skill development in calculating oral and parenteral drug dosages.

VTHT 1203 Canine and Feline Care and Husbandry**(2-1-3)**

Prerequisite: SPCH 1311, 1318 or 1321; ITSC 1301, 1309 or COSC 1301; ENGL 1301; BIOL 1408 or 1413

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.

VTHT 1205 Veterinary Medical Terminology**(2-2-0)**

Prerequisite: SPCH 1311, 1318, or 1321; ITSC 1301, 1309, or COSC 1301; ENGL 1301; BIOL 1413 or 1408

Introduction to word parts, directional terminology, and analysis of common veterinary terms.

VTHT 1209 Veterinary Nutrition**(2-2-0)**

Prerequisite: SPCH 1311, 1318, or 1321; ITSC 1301, 1309, or COSC 1301; ENGL 1301; BIOL 1408 or 1413

Fundamentals of energy and non-energy producing nutrients and their sources and functions. Integration of concepts including digestion, absorption, and metabolism with application to normal and therapeutic nutritional needs.

VTHT 1291 Special Topics: Math for Veterinary Technicians**(3-3-0)**

Prerequisite: SPCH 1311, 1318, or 1321; ITSC 1301, 1309, or COSC 1301; ENGL 1301; BIOL 1408 or 1413

A review of mathematical functions used by veterinary technicians including fractions, decimals, proportions, perimeters, areas, volumes of geometric figures, and certain algebraic/trigonometric functions, as required by specific businesses and industries for successful on-the-job performance.

VTHT 1301 Introduction to Veterinary Technology**(3-3-0)**

Prerequisite: SPCH 1311, 1318, or 1321; ITSC 1301, 1309, or COSC 1301; ENGL 1301; BIOL 1408 or 1413

Survey of the profession of veterinary technology with emphasis on basic techniques, handling and care of domestic animals, and ethical and professional requirements.

VTHT 1317 Veterinary Office Management**(3-2-2)**

Prerequisite: VTHT 1341, VTHT 2217, VTHT 2305, VTHT 2331

Practical experience in management of the veterinary practice. Emphasis on client relations, record keeping, inventory, employment skills, and computer skills in the veterinary environment.

VTHT 1341 Anesthesia and Surgical Assistance**(3-2-4)**

Prerequisite: VTHT 1349, VTHT 2301, VTHT 2313, VTHT 2321, VTHT 2323

In-depth application of surgical, obstetrical, and anesthesia techniques including identification and use of instruments and equipment. **Professional Liability Required.**

VTHT 1345 Veterinary Radiology**(3-2-3)**

Prerequisites: VTHT 1341, VTHT 2217, VTHT 2305, VTHT 2331

Presentation of theory and principles and practical application of radiology within the field of veterinary medicine. **Professional Liability Required.**

VTHT 1349 Veterinary Pharmacology**(3-2-2)**

Prerequisite: VTHT 1203, VTHT 1205, VTHT 1209, VTHT 1291, VTHT 1301, VTHT 1413

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 the agents. **Professional Liability Required.**

VTHT 1413 Veterinary Anatomy and Physiology**(4-2-4)**

Prerequisite: SPCH 1311, 1318, or 1321; ITSC 1301, 1309, or COSC 1301; ENGL 1301; BIOL 1408 or 1413

Gross anatomy of domestic animals including physiological explanations of how each organ system functions.

VTHT 2209 Food Animal Clinical Management**(2-1-4)**

Prerequisite: VTHT 1341, VTHT 2217, VTHT 2305, VTHT 2331

Survey of feeding, common management practices, and care of food producing animals in clinical setting. Review of common diseases of food producing animals encountered in the practice of veterinary medicine. **Professional Liability Required.**

VTHT 2217 Exotic Animal Clinical Management**(2-1-3)**

Prerequisite: VTHT 1349, VTHT 2301, VTHT 2313, VTHT 2321, VTHT 2323, VTHT 2366

Survey of feeding, common management practices, and care of exotic animals in a clinical or zoological setting. Review of common diseases of exotic animals encountered in the practice of veterinary medicine.

VTHT 2301 Canine & Feline Clinical Management**(3-2-3)**

Prerequisite: VTHT 1203, VTHT 1205, VTHT 1209, VTHT 1291, VTHT 1301, VTHT 1413

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. **Professional Liability Required.**

VTHT 2305 Equine Clinical Management**(3-2-3)**

Prerequisites: VTHT 1349, VTHT 2301, VTHT 2313, VTHT 2321, VTHT 2323, VTHT 2366

Survey of feeding, common management practices, and care of equines in a clinical setting. Review of common diseases of equines encountered in the practice of veterinary medicine. Supplemental lectures via distance learning. **Professional Liability Required.**

VTHT 2313 Lab Animal Clinical Management**(3-2-3)**

Prerequisite: VTHT 1203, VTHT 1205, VTHT 1209, VTHT 1291, VTHT 1301, VTHT 1413

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. **Professional Liability Required.**

VTHT 2321 Veterinary Parasitology**(3-2-3)**

Prerequisite: VTHT 1203, VTHT 1205, VTHT 1209, VTHT 1291, VTHT 1301, VTHT 1413

Study of parasites common to domestic animals including zoonotic diseases.

VTHT 2323 Veterinary Clinical Pathology I**(3-2-3)**

Prerequisite: VTHT 1203, VTHT 1205, VTHT 1209, VTHT 1291, VTHT 1301, VTHT 1413

In-depth study of hematology and related chemistries with emphasis on lab procedures. **Professional Liability Required.**

VTHT 2331 Veterinary Clinical Pathology II**(3-2-3)**

Prerequisite: VTHT 1349, VTHT 2301, VTHT 2313, VTHT 2321, VTHT 2323, VTHT 2366

In-depth study of urinalysis and cytology. Survey of microbiological techniques. Emphasis on laboratory procedures. **Professional Liability Required.**

VTHT 2366 Practicum (or Field Experience) – Veterinarian Assistant/Animal Health Technician**(3-0-21)**

Prerequisite: SPCH 1311, 1318, or 1321; ITSC 1301, 1309, or COSC 1301; ENGL 1301; BIOL 1408 or 1413; VTHT 1301, VTHT 1203, VTHT 1205, VTHT 1209, VTHT 1349, VTHT 1413, VTHT 2301, VTHT 2313, VTHT 2321, VTHT 2323

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. **Professional Liability Required.**