**ACCOUNTING**

**ACCT 1002 BASIC ACCOUNTING PROCEDURES**  
A study of basic accounting procedures, emphasizing a practical approach. Prerequisites: [R] [W].

**ACCT 1333 PERSONAL FINANCE**  
How to develop and implement long-range plans to achieve financial objectives, including the basics of financial planning, money management, management of expenditures, income and asset protection and the fundamental concepts of investments. Prerequisites: [R] [W].

**ACCT 2001 PAYROLL ACCOUNTING**  
Basic procedures of a payroll accounting system. The study of manual systems, the various laws regulating payroll data and the preparation of the payroll tax returns. Prerequisites: ACCT 1002 or ACCT 2103. Spring only.

**ACCT 2003 VOLUNTARY INCOME TAX ASSISTANCE (VITA) CENTER – INTERNSHIP**  
Application of tax law and research to clients' tax returns in the VITA Center on campus; preparation and review of tax return.

**ACCT 2043 COMPUTERIZED ACCOUNTING**  
Independent study, analysis, design and construction of solutions to case studies in accounting automation. Prerequisites: ACCT 2103 AND CIS 1113 OR CIS 1503

**ACCT 2103 FINANCIAL ACCOUNTING**  
Covers the accounting process and principles of accrual accounting. The study of financial statements and the information required for their preparation. Prerequisites: [R] [W].

**ACCT 2203 MANAGERIAL ACCOUNTING**  
Managerial accounting concepts and objectives, planning and control of sales and cost, analysis, variance analysis, capital budgeting and the measurement of divisional performance. Prerequisite: ACCT 2103.

**ACCT 2423 FUNDAMENTALS OF INCOME TAX**  
Study of the present provisions of individual income tax laws and preparation of tax returns. Prerequisite: ACCT 2103. Fall only.

**ACCT 2443 INTERMEDIATE ACCOUNTING I**  
Valuation and other theoretical problems in accounting for cash, temporary investments, receivables, inventories, long-term investments, plant and equipment, and intangible assets. Issues related to income determination including revenue recognition. Prerequisite: ACCT 2103. Fall only.

**ACCT 2543 INTERMEDIATE ACCOUNTING II**  
A continuation of ACCT 2443. A comprehensive study of fixed assets, stockholder's equity, dilutive securities, investments, pensions, leases, error analysis, preparation and analysis of financial statements. Prerequisite: ACCT 2443. Spring only.

**ALCOHOL AND SUBSTANCE ABUSE**

**CA 1103 DRUG ABUSE**  
Surveys the use and abuse of drugs and chemicals in American society, outlining the major determinants of alcohol and drug dependency, as well as the psychopharmacological, psychological and sociological aspects of chemicals most often abused.

**CA 1113 HELPING SKILLS**  
Examines the major causative theories and treatment of chemical dependency. Prerequisites or concurrent enrollment: CA 1103 and PSYC 1113.

**CA 1321-1324 TECHNICAL PROBLEMS - SUBSTANCE ABUSE**  
One to four, maximum six credits. Technical problems of particular interest to substance abuse counseling majors. Prerequisite: consent of department head.

**CA 2213 INTRODUCTION TO GROUP DYNAMICS**  
Surveys the major theories and research dealing with group processes. Prerequisite: CA 1113.

**CA 2243 PRACTICUM IN DRUG AND ALCOHOL COUNSELING I**  
150 clock hours of field experience, which allows the application of knowledge and skills learned in coursework. Prerequisite: Successful completion with a “C” or better of nine credit hours of chemical abuse coursework beyond CA 1103 and consent of department head.

**CA 2253 PRACTICUM IN DRUG AND ALCOHOL COUNSELING II**  
Field experience, which allows the application of knowledge and skills learned in coursework. Prerequisites: CA 2243 and consent of department head.

**CA 2323 CHEMICAL ABUSE SEMINAR: PROFESSIONAL ISSUES AND ETHICS**  
A reading and discussion seminar addressing current issues related to the fields of substance abuse, counseling and psychopathology. Ethical issues related to the field will also be examined. Prerequisite: consent of department head.

**CA 2333 CHEMICAL ABUSE IN THE FAMILY**  
Develops the student’s understanding of the family as a basic social unit. Examines the influence of alcohol and other drugs in the family system and explores various behaviors exhibited by a chemically dependent family. Issues relating to family intervention, treatment modalities and continuing recovery will be explored. Prerequisites: CA 1113 and CA 2213.

**ANTHROPOLOGY**

**ANTH 2113 INTRODUCTORY ANTHROPOLOGY**  
General anthropology: survey of anthropology, emphasizing physical and cultural anthropology and archaeology. Students examine clues as to how humanity evolved and learn how knowledge of the past helps in understanding humanity today. Prerequisites: [R] [W].

**ANTH 3253 LANGUAGE AND CULTURE**  
This course is a cross-cultural survey of human behavior designed to introduce students to anthropological approaches to culture, linguistics, social research, and social theory. Student will examine the intersections of culture and gender, age, ethnicity and social stratification. Students will apply ethnographic field methods while executing research project in the community. Prerequisite: Sophomore Standing.

**ARCHITECTURE**

**ARCH 1103 GRAPHIC COMMUNICATIONS**  
Construction drawing interpretation. Topics: organization and relationship of drawings and specs; symbols, dimensions, scales and notes. Lab: three hours per week.

**ARCH 1213 DESIGN I**  
Architectural graphics and design fundamentals. Lab: six hours per week. Lecture: two hours.

**ARCH 1223 CONSTRUCTION DRAWING I**  
Provides students with the functional knowledge and skills necessary to create a set of working drawings for residential construction. Includes a detailed study of architecture as a profession, drawing equipment and architecture nomenclature, light construction drawings, techniques of architectural drawings, methods of representing floor plan, elevations, plot plans, slab construction, roof plans, door and window schedules, and construction sections and details. Students learn to read and interpret light construction drawings and will be required to complete a set of residential drawings. Lab: four hours per week. Lecture: one hour.
ARCH 1321-1324 TECHNICAL PROBLEMS - ARCHITECTURAL TECHNOLOGY
One to four, maximum six credits. Technical problems in architecture of particular interest to techni-
cians. Prerequisite: consent of department head.

ARCH 1333 FUNDAMENTALS OF RESIDENTIAL DESIGN
Fundamentals of home design-area definition. Spatial relationships, traffic patterns with empha-
sis on drawing competence. Energy-use concepts as related to design. Lecture/Lab: five hours per
week. Prerequisite: ARCH 1223.

*ARCH 1614 COMPUTER-AIDED DRAFTING I
Introduction to computer-aided drafting (CAD) principles, using a “menu-driven” system to
generate graphic output for engineering drafting applications. Problem solving skills in applied
technical fields will be developed. Lab: four hours per week. Prerequisite or co-requisite: ARCH 1223 or equivalent. Same as INDD 1614.

ARCH 2003 ARCHITECTURE AND SOCIETY
This is the first course in the architectural history sequence. It functions, therefore, as an introduc-
tion to both the historical framework of western architecture and the profession. The course also
fulfills humanities and international dimension requirements for the University at large. Con-
sequently, a large number of students enrolled in the course are not architecture majors. In
addition, in fulfilling this role, the content of the course specifically includes modern architectural
elements as comparisons to the historical frame-
work.

ARCH 2013 CONSTRUCTION DRAWING II
Fundamentals of commercial construction draw-

ings, preparation and interpretation of working

drawings. Topics include architectural, civil and
structural drawings. Lab: six hours per week. Prerequisite: ARCH 1223.

ARCH 2044 ARCHITECTURAL PRESENTATION
Architectural presentation techniques with em-
phasis on two-dimensional rendering styles: line, two and multi-point perspective along with color
medium and techniques. Lab: four hours. Lecture:
one hour. Offered on demand.

*ARCH 2051-2056 ADV TECH PROBLEMS-
ARCH
Special CAD (computer-aided design) architectural
project application. Instruction and practical ex-
perience of completing a major architectural CAD
project. Lab: six hours. Offered on demand.

*ARCH 2063 CAD SYSTEMS MANAGEMENT
Concentrating on the responsibilities and duties of the CAD (computer-aided design) system manager
including archiving and back-up procedures, file
manipulation, securities, library management,
graphic standards, CAD departmentalization and
various applications. Offered on demand.

ARCH 2213 DESIGN II
Continuation of ARCH 1213. Two hours lecture. Lab: six hours per week. Prerequisite: ARCH 1213.

ARCH 2252 COMPUTER APPLICATIONS IN ARCHITECTURE-PHOTOSHOP
This is an introductory course on computer applica-
tions in architecture. Understanding the digital
tools and becoming familiar with the digital design
process is a vital part of the course. The course
will consist of a weekly lecture, tutorial and work-
shop. Students are required to participate in all
portions of the class including the workshop.

ARCH 2263 SYSTEMS AND MATERIAL
Architectural, structural, environmental control
systems and materials in architecture. Lab: two
hours.

ARCH 2273 COMPUTER-AIDED DRAFTING II
A continuation of ARCH 1614 with emphasis on expanding skills gained to produce more complex
2D architectural layouts and drawings, using Au-
toCAD. Three lab hours per week. Prerequisites:
ARCH 1614 or INDD 1614.

ARCH 2322 CONSTRUCTION SPECIFICATIONS
Construction specifications and their significance
as part of the contract documents. Specification
language and style follows construction specifi-
cation institute format. Prerequisites: ARCH 1223 and ARCH 2263.

ARCH 2353 ACOUSTICS AND LIGHTING
This is an introductory course on acoustics and
lighting used in building design. Understanding
the present and future use of energy saving will be
required in the implementation of acoustics and
lighting in renovation and new building design.

ARCH 2363 ARCHITECTURAL PRACTICES AND PROCEDURES
This course introduces students to the practice and
procedures of architecture. It will cover the
AIA documents used in the design and con-
struction of buildings; as well as the roles the
architectural technician may play in the process.
Prerequisites: ARCH 1103 and ARCH 1223.

ARCH 2403 3D MODELING-GOOGLE SKETCHUP
Advanced CAD (computer aided drafting) system
operation applications with emphasis on wire
frame and solid 3D CAD system models. Prereq-
usite: ARCH 1614.

ARCH 2423 ENERGY CONCEPTS AND APPLICATION
A study of energy concepts and their application.
Subjects studied include solar, wind, greenhouse
and infiltration. Retrofit procedures needed to
apply these concepts to existing buildings are
explored. Lab: three hours per week. Prerequisites:
ARCH 1223 and ARCH 2263 or consent of
the instructor. Offered on demand.

ARCH 2444 URBAN PLANNING TECHNOLOGY
Land use standards and zoning classifications and
restrictions, nature and planning of land develop-
ment patterns in the modern urban society are
studied. Lab: six hours per week. Prerequisites:
ARCH 2013. Offered on demand.

ARCH 2651-2654 TECHNICAL PROJECTS - ARCHITECTURAL TECHNOLOGY
One to four, maximum four credits. Special proj-
ect will be assigned by the advisor with the ap-
proval of the department head. A comprehensive
written report of the work accomplished must be
prepared and approved. Before credit is received
an examination may also be required. Prerequi-
site: completion of three semesters of work in a
technical college curriculum or 36 credit hours.

ARCH 2713 ADVANCED CAD APPLICATIONS I-RIVET I
A continuation of ARCH 2273 with emphasis on
expanding skills gained to produce 2D and 3D
architectural layouts and drawings of residential
and commercial buildings, using cutting edge 3D
architecture software. Prerequisite: ARCH 2273.

ARCH 2723 ADVANCED CAD APPLICATIONS II – RIVET II
A continuation of ARCH 2713 with emphasis on
expanding skills gained to produce 2D and 3D
architectural layouts and drawings of residential
and commercial buildings including mechanical,
electrical, plumbing, and structural, using cut-
ting edge 3D architecture software. Prerequisite:
ARCH 2713.

ARCH 2733 ADVANCED RESIDENTIAL DESIGN
Professional design practices, actual problems
with criteria including scope of design, function,
practicality and marketability. Case studies. Lab:
six hours per week. Prerequisites: ARCH 1333 or
ARCH 2013. Offered on demand.

ART

ART 1103 DRAWING I
A freehand drawing experience designed to build
basic skills and awareness of visual relation-
tions. A sequence of problems dealing with composition, shape, volume, value, line, gesture, texture and
perspective. A variety of media explored. Lab: six
hours per week.

ART 1203 DESIGN I
An introduction to visual problem solving. Orga-
nization of the two-dimensional plane using the
elements and principles of design: line, shape,
value, texture and color. Use of black and white
and color media. Prerequisite: [R]

ART 1503 COLOR ILLUSTRATION
Fundamentals of illustration using color media.
Emphasis is given to perspective and light and
shadow to depict objects. Color media include
colored pencil, color pencils, graphite pencils, pastels, collage and crayon. Lab: six hours per week.
Prerequisite: ART 1103.
ART 1803 INTRODUCTION TO ART (H)
An introduction to the analysis and interpretation of visual arts. Visual, emotional and intellectual aspects of art in painting, sculpture, printmaking and architecture. Prerequisite: three hours of English Composition.

ART 2051-2056 TECHNICAL PROBLEMS
One to six, maximum six credits. Special topics in photography. Prerequisite: Will change according to subject matter. Lab hours may apply.

ART 2323 INTRODUCTION TO PHOTOGRAPHY
A course in the theory of black and white photography with practical experience in the use of the camera, its variables (shutter, aperture, film), darkroom techniques and the theory of design as it applies to photography. This includes an extended lab for practical application of the camera and darkroom techniques. A fully adjustable 35mm camera is required.

ASTRONOMY

ASTR 1104 ELEMENTARY ASTRONOMY (N)
Structure of the universe, including our solar system of sun, earth, planets and moons, and lesser bodies and star characteristics. Prerequisites: [R] [SCI].

BIOL 1121 BIOLOGICAL AND MEDICAL TERMINOLOGY
Introduction to the use of Latin and Greek common roots, stems and combining forms in structuring biological and medical terminology. Prerequisites: [R] [SCI].

BIOL 1133 THE FUNDAMENTALS OF FOOD SCIENCE
A study of the food industry from producer to consumer and an analysis of the current United States and world food situations. [R] [SCI].

BIOL 1212 HUMAN ANATOMY LAB
Laboratory supplementing BIOL 1515. Includes dissection and study of the human cadaver. Enrollment requires credit or concurrent enrollment in BIOL 1515. This course will provide laboratory credit for students in an approved LSN or paramedic program. Prerequisites: [R] [SCI] ICSM 0123.

BIOL 1303 PRINCIPLES OF BIOLOGY (L, N)
Unifying principles of cellular, organismal, population and ecosystem biology. Genetics, evolution, classification, development, energy transformation, integration and control in biological systems. The nature of biological investigation will receive attention. This course plus BIOL 1311 meets the general education criteria for a laboratory science. Prerequisites: [R] [SCI] ICSM 0123.

BIOL 1311 PRINCIPLES OF BIOLOGY LABORATORY (L)
Laboratory supplementing BIOL 1303. Lab: two hours per week. Concurrent: BIOL 1303. Prerequisites: [R] SCI ICSM 0123.

BIOL 1404 PLANT BIOLOGY (L, N)
Survey of the plant phyla, structure and function of plant organs, water relations, translocation, reproduction, growth and development. Emphasis on the importance of plants to humans. Lab: two hours per week. Prerequisites: [R] [SCI] ICSM 0123.

BIOL 1515 HUMAN ANATOMY AND PHYSIOLOGY
Structure and function of the human body. Emphasis is on the study of functions in the body and a basic knowledge of gross anatomy. Lecture: five hours per week. This course does not fulfill the anatomy and physiology requirements for the nursing program. Prerequisites: [R] [SCI] ICSM 0123.

BIOL 1604 ANIMAL BIOLOGY (L, N)
Survey of the principle phyla of the animal kingdom with emphasis on basic zoological principles. Lab: two hours per week. Prerequisites: [R] [SCI] ICSM 0123.

BIOL 2214 HUMAN ANATOMY
Morphology of the human body and its systems. Laboratory includes dissection and study of the human cadaver. Prerequisite: [R] [SCI] Math0123. Biology 1012 is suggested but not required.

BUSINESS

BUS 1011 BUSINESS ETHICS
A study of contemporary and classical views relating to moral judgments and conduct within the business environments.

BUS 1321-1324 TECHNICAL PROBLEMS - BUSINESS
One to four, maximum six credits. Technical problems in business that are of particular interest to technicians. Prerequisite: consent of the department head.

BUS 1413 LEADERSHIP DEVELOPMENT
Provides emerging and existing leaders the opportunity to explore the concept of leadership and to develop and improve their leadership skills. The course integrates readings from the humanities, experiential exercises, films and contemporary readings on leadership.

BUS 1523 INTRODUCTION TO BUSINESS
Surveys the basic business functions, principles and practices in the administration of business organizations. Examines business in society and the interactions of business with the competitive, economic, political/legal, social/cultural and technological environments. Prerequisites: [R]
CHEMISTRY

CHEM 1104 BASIC CHEMISTRY (L, N)
A one-semester courses in preparation for the general chemistry sequence or for students with degree plan that has a one-semester chemistry requirement. This course includes fundamental knowledge of inorganic chemistry; with laboratory. Prerequisite: [R] [SCI] MATH 0123.

CHEM 1214 CHEMISTRY I (L, N)
A course recommended for students in applied sciences, including paramedical sciences. This course includes nomenclature; stoichiometry; atomic structure; chemical bonding; solutions; and gas laws and thermochemistry with laboratory. Prerequisite: [R] [M] [SCI].

CHEM 1314 GENERAL CHEMISTRY I (L, N)
An algebra based course. This course includes nomenclature, atomic and molecular structure, stoichiometry, bonding, states of matter, thermochemistry, acids and bases, and gas laws; with laboratory. Prerequisite: MATH 1515 and CHEM 1104 or completed High School Chemistry.

CHEM 1515 GENERAL CHEMISTRY II (L, N)
An algebra based course. This course is a part of the work accomplished must be prepared by the student and approved by the department head. Variable credit: three to six credits. Can be repeated. Prerequisites: Sophomore standing and departmental approval.

CHEM 2055 ORGANIC CHEMISTRY I (L, N)
Beginning organic chemistry course recommended for science majors and pre-professional students. Includes aliphatic and aromatic nomenclature, structure, stereochemistry, selected mechanisms and reactions with an introduction to interpretive spectroscopy. Lab: three hours per week. Lab recitation: one hour per week. Prerequisite: CHEM 1515.

CHEM 2115 QUANTITATIVE ANALYSIS (L, N)
This course provides an introduction to analytical chemistry including selected methods of analysis and the statistical treatment of experimental data. Concurrent enrollment in CHEM 2115L is required. Prerequisite: CHEM 1515.

CHEM 2155 ORGANIC CHEMISTRY II (L, N)
This course continues the development of the chemistry of functional groups with emphasis on aldehydes and ketone, carboxylic acid, amines and phenols in both aliphatic and aromatic compounds then concludes with the introduction of the biological molecules. Mechanisms and stereochemistry are emphasized in all reactions. Lab: three hours per week. Lab recitation: one hour per week. Prerequisite: CHEM 2055.

COMPUTER INFORMATION SYSTEMS

CIS 1003 WINDOWS
Course is designed to give the student basic knowledge of Microsoft Windows and its uses. Students will be given projects using Windows features and will learn how other software programs link to Windows. Prerequisite: ICSR 0033 or [R].

CIS 1011 MICROCOMPUTER APPLICATION: KEYBOARDING
A microcomputer skill course designed to familiarize the student with the use of a microcomputer keyboard through hands-on instruction.

CIS 1033 INTRODUCTION TO MICROSOFT (MS) WORD
Study of word processing using ms word. Course will teach the basics of word processing through advanced presentation techniques. Requires basic typing skills. Spring and Summer only.

*CIS 1051 MICROCOMPUTER APPLICATION: GRAPHICS-POWERPOINT
A microcomputer skill course designed to familiarize the student with the use of a microcomputer graphics through hands-on instruction.

*CIS 1113 COMPUTER CONCEPTS WITH APPLICATIONS
Provides students with an introduction to concepts and applications of the personal computer in business. Topics include spreadsheets, databases, word processing, presentations, ethics, vocabulary, Internet skills and file system management. Theory and hands-on computer instruction is included. This introductory course is intended for students with existing computer skills. Prerequisite: [R].

CIS 1123 PROGRAMMING FUNDAMENTALS
Designed for both computer science majors and non-majors to give fundamental knowledge of computer programming concepts. Students will learn accepted programming concepts and style. This course involves logic, pseudo-code, flow charts, statement sequencing, conditional statements, loop structures and input/output. Prerequisites: [R] and Basic computer knowledge.

CIS 1321-1324 TECHNICAL PROBLEMS-CIS
One to four, maximum six credits. Technical problems in computer programming which are of particular interest to programmers. Prerequisite: Consent of department head.

CIS 1333 HELP DESK FUNDAMENTALS
Provides students with a broad understanding of help desk and support services business practices and the tools and technology most frequently used to support those business practices. Focuses on a generic description of software that might be used, although some specific applications are also discussed at a high level. Also designed to allow students to retrieve the most up-to-date information of general IT (Internet technology) and support business practices, using the Internet as a resource for white paper, product demonstrations and trial versions of software. Students will have an opportunity to apply their knowledge through hands-on projects, exercises and case study assignments. Prerequisite: CIS 1113 or approval of CIS instructor.

CIS 1433 GAME DEVELOPMENT
This course is an overview of game development from the creative and theoretical standpoint. Students will learn to analyze games and game play elements, examine games and trends in gaming, and formulate their own outline for an ideal game. Prerequisite: [R].

CIS 1453 CHARACTER DEVELOPMENT
This course will introduce students to the tools and concepts used to create storylines and develop characters. It will allow students to create games that inform the audience about the character’s personality, history, thought processes, etc. Prerequisite: CIS 1433. Spring only.

*CIS 1503 MICROCOMPUTER APPLICATIONS-MS OFFICE
Familiarizes the student with fundamental terminology and concepts of microcomputers, their operating systems and disk management, as well as major production applications including word processing, spreadsheets, data base management systems, and may include graphics, data communications and desktop publishing. Familiarity with computer keyboard is recommended. Hands on computer instruction. Prerequisite: [R].
*CIS 1533 VISUAL BASIC PROGRAMMING  
A first course in Visual Basic Programming. This course includes graphical user interface design, event driven programming, toolbox controls and properties, basic control structures and dynamic arrays. Programs developed using structured design techniques. Prerequisites: completion of any programming language course with a "C" or better. CIS 1123.

*CIS 2013 C++ LANGUAGE PROGRAMMING  
Introductory course in C++ using object oriented programming. This includes basic control structure, files, input/output, single and multi-dimensional arrays, searching and sorting. Programs developed using structured design techniques. Prerequisite: CIS 1123.

*CIS 2023 C# (SHARP) PROGRAMMING  
Introductory course in C# using object-oriented programming. This includes basic control structures. Programs developed using structured design techniques. Prerequisite: CIS 1123.

*CIS 2053 ADVANCED VISUAL BASIC  
This course is designed to strengthen the student's knowledge of Visual Basic programming and to introduce advanced programming techniques using the Visual Basic programming language. Prerequisite: CIS 1533. Spring only.

*CIS 2103 LEVEL DESIGN CONCEPTS  
This course will introduce students to the tools and concepts used to create levels for games. It will incorporate level design and architecture theory, concepts of "critical path" and "flow." Students will build and test levels that reflect design concepts. Fall only.

*CIS 2151-2156 ADVANCED TECHNICAL PROBLEMS-COMPUTER PROGRAMMING  
One to six, maximum six credits. A study of applied problems of particular interest to the computer programmer.

*CIS 2263 SPREADSHEET APPLICATION  
An in-depth study of the use and theoretical concepts of an integrated microcomputer software spreadsheet application. Hands-on instruction involves individual aspects of computerized spreadsheets, as well as the integration of all spreadsheet components. Prerequisites: CIS 1113 or CIS 1503.

*CIS 2323 JAVA  
Introductory course in Java using object-oriented programming. This course includes basic control structures, files, input-output, single arrays, searching, sorting, graphics, event handling, interface components and programming for the Internet. Prerequisites: CIS 1123 and (CIS 2013 or CIS 1533).

*CIS 2343 ADVANCED C++ PROGRAMMING  
An advanced course in object oriented programming in the C++ language with a prerequisite of prior programming experience. This course includes dynamic memory allocation, linked list, stacks, queues, binary trees, polymorphism, inheritance and encapsulation. The design process is object oriented. Prerequisite: CIS 2013. Spring only.

*CIS 2352 ADVANCED OBJECT ORIENTED C++  
Development of advanced programming techniques through the study of object-oriented methods in C++. Course work involves lecture and class project. Prerequisite: CIS 2343.

*CIS 2363 DATABASE DESIGN  
Provides students with basic knowledge of database planning, design and implementation. Exercises will take the student through database planning, design and construction, implementation and maintenance. Prerequisite: CIS 1113 or CIS 1503.

*CIS 2373 INTRODUCTION TO ORACLE  
Provides students with the knowledge and skills necessary to create and maintain database objects and to store, retrieve and manipulate data. Enables students to learn how to write PL/SQL procedures, function and packages. In addition, students learn how to create PL/SQL blocks of application code that can be shared by multiple forms, reports and data management applications. Prerequisite: CIS 1113.

*CIS 2403 3D GAME PROGRAMMING  
This course includes visual design fundamentals to expand game development knowledge. The course will combine advanced programming techniques with 3D game concepts. Prerequisites: CIS 2013 or CIS 2023; and GDD 2233.

*CIS 2433 ADVANCED C# (SHARP) PROGRAMMING  
This course is designed to strengthen the student's knowledge of advanced programming techniques through the study of object-oriented methods in C# (Sharp). The course studies topics such as internet, web, and database applications and applying web-based services with C# (Sharp). Prerequisite: CIS 2023. Spring only.

*CIS 2463 DATABASE APPLICATIONS  
The student will use a selected database management program to create and edit database files. The student will also insert, organize and build reports, forms and templates with the database files. Prerequisites: CIS 1113 and CIS 2563.

*CIS 2513 PRINCIPLES OF INFORMATION SYSTEMS SECURITY  
This course provides the student with a broad review of the field of information systems security, background on many related elements and enough detail to facilitate an understanding of the field. It covers terminology of information systems security, the history of the field and an overview on how to manage an information systems security program. Prerequisites: CIS 1113 or CIS 1103 or ITD 1113.

*CIS 2543 ADVANCED JAVA PROGRAMMING  
An advanced course in object-oriented programming in the Java language with a prerequisite of prior programming experience. This course includes dynamic memory allocation, linked list, stack, queues, binary trees, polymorphism, inheritance and encapsulation. The design process is object oriented. Prerequisite: CIS 2323. Spring only.

*CIS 2603 PROFESSIONAL ETHICS FOR COMPUTER TECHNOLOGY  
 Presents the ethical and social issues related to computer technology. The course surveys the traditional theories of ethics and applies them to ethical cases that significantly involve computer technology. The student will examine the impacts of ethical issues in the use of computer technology in the personal and business environments. It also covers professional ethics in which computer professionals apply codes of ethics and standards of good practice within their profession. Prerequisites: [R] [W]

*CIS 2613 COMPUTER INFORMATION SYSTEMS (CIS) PROJECT MANAGEMENT  
This course addresses the process and skills needed for successful project management in the computer information systems and technology environment of business. Topics include project planning, estimating, scheduling, budgeting, tracking, and controlling. The course uses Microsoft project software. Prerequisites: [R] [W]

*CIS 2651-2654 TECHNICAL PROJECTS - COMPUTER PROGRAMMING  
One to four, maximum four credits. Special project will be assigned by the advisor with the approval of the department head. A comprehensive written report of the work accomplished must be prepared and approved. Before credit is received, an examination may also be required. Prerequisites: completion of three semesters of work in a technical college curriculum or 36 credit hours.

*CIS 2703 SYSTEMS ANALYSIS AND DESIGN  
Introduction to a methodology for the analysis, design, documentation, implementation and evaluation of computer systems. Included will be topics in techniques for data gathering, file organization and accessing methods. Prerequisites: CIS 1113 and three hours of computer applications or programming.

*CIS 2713 SYSTEMS DEVELOPMENT AND IMPLEMENTATION  
Development of data processing system from the analysis of present information flow, system specification and equipment selection to implementation of the system. A continuation of CIS 2703 with practical adaptation and/or experience of the topics previously surveyed. Prerequisite: CIS 2703. Spring only.
CONS 1103 BLUE PRINT READING & DRAFTING FOR CONSTRUCTION
The course will provide an understanding of the visual plans and specification which are involved in the construction process along with an understanding of drafting skills which are needed within the construction industry. At the completion of the course, students will have the skills needed to interpret and use contract documents which are used during the construction process. Lecture hours: 2 lab hours: 3

CONS 1123 INTRODUCTION TO BUILDING CODES
Introduction to current building codes including BOCA (Building Officials and Code Administrators) applications. Offered on demand.

CONS 1133 INTRODUCTION TO ELECTRICAL CODES
Introduction to current electrical codes as they apply to buildings. Offered on demand.

CONS 1143 INTRODUCTION TO PLUMBING CODES
Introduction to current plumbing codes as they apply to buildings. Offered on demand.

CONS 1153 INTRODUCTION TO MECHANICAL CODES
Introduction to current mechanical codes as they apply to buildings. Offered on demand.

CONS 1214 INTRODUCTION TO CONSTRUCTION
Overview of the entire construction industry with emphasis on construction materials, methods and systems. Introduction to both building and highway construction drawings and their interpretation. Lab: two hours. Lecture: two hours. Same as SURV 1214.

CONS 1321-1324 TECHNICAL PROBLEMS CONSTRUCTION
One to four, maximum six credits. Technical problems in construction that are of particular interest to technicians. Prerequisite: consent of the department head.

CONS 2003 OSHA FOR RESIDENTIAL & COMMERCIAL CONSTRUCTION
The student will review occupational safety & health administration (OSHA) as they apply to the planning and construction of residential and commercial properties. Students will earn basic (10 hour) certification in OSHA safety standards. Lecture hours: 3

CONS 2051-2056 ADVANCED TECHNICAL PROBLEMS CONSTRUCTION
One to six, maximum six credits. A study of problems in applied engineering science that is of particular interest to the engineering technician.

CONS 2103 INTRODUCTION TO CONSTRUCTION MANAGEMENT
A study of organization, management, economics and labor relations pertaining to projects during the construction phase. Prerequisite: advisor’s approval.

CONS 2112 ELECTRICAL EQUIPMENT OF BUILDINGS
A basic course in application of electrical lighting, heating and power distribution. Topics include fundamentals of electric motor starters and controls, and basic planning and design of wiring systems. Lab: two hours per week. Offered on demand.

CONS 2113 MECHANICAL EQUIPMENT OF BUILDINGS
Plumbing, heating and air conditioning as it pertains to office and small commercial buildings. Design and working drawings on plumbing and heating problems.

CONS 2213 STRUCTURAL INSPECTION
Orientation to the correct code requirements on applications, techniques and inspection of reinforced concrete, structural block and pre-stressed concrete. Offered on demand.

CONS 2213 GREENBUILDING SYSTEMS/ SUSTAINABLE CONSTRUCTION
The purpose of the course is to provide an overview of the green building market within construction, with importance placed on high performance green building systems, renewable onsite energy, water efficiency and minimization of the building impact on the environment. An understanding of sustainability and green building systems will be gained at the completion of the course. Prerequisite: CONS 1214.

CONS 2243 LEED STANDARDS & CONSTRUCTION
The course will provide an understanding of the U.S. green building council leadership in energy and environmental design (LEED) version 3, 2009 and other green building rating programs in both residential and commercial construction. The course will cover the history, practice, implementation and benefits of green building programs. At the completion of the course, students will have an understanding of the different credits and prerequisites of LEED, along with an understanding of green building programs. Prerequisite: CONS 2253.

CONS 2253 CONSTRUCTION DRAWING AND CAD
Interpretation and production of construction drawings, architectural and engineering drafting using both drafting machines and computer-aided drafting. Lab: five hours per week.

CONS 2333 CONSTRUCTION PRACTICES AND PROCEDURES
Light, heavy and industrial construction. Foundation layout, framing and finish work, site investigations, excavation, pre-cast concrete, tilt up, structural steel and metal building construction and project management.

CONS 2342 CONSTRUCTION INSPECTION PRINCIPLES
Problems and considerations pertinent to maintaining adequate quality control on construction projects. Prerequisite: ARCH 1313.

CONS 2343 CONCRETE AND ASPHALT CONSTRUCTION
Production techniques for placing and finishing concrete. Design of concrete form work. Concrete testing techniques. Theory and techniques for placing masonry construction units, field and laboratory techniques and field procedures of asphalt construction. Lab: three hours per week. Prerequisite: ARCH 1313.

CONS 2423 CONSTRUCTION ESTIMATING I
Computing the quantities and cost of materials and labor involved in residential and light commercial construction. Includes bidding procedures and computer applications. Lab: two hours per week. Prerequisites: CONS 1214 and ARCH 1223.

CONS 2523 CONSTRUCTION PROCEDURES II
Principles, practices and methods of industrial and heavy construction. Topics include earth quantities and productivity of equipment. Lab: three hours per week. Prerequisites: CONS 2423.

CONS 2623 CONSTRUCTION ESTIMATING II
A continuation of Construction Estimating I, with emphasis on detailed quantities of materials and labor of building construction estimates. Topics include earth quantities and productivity of equipment. Lab: three hours per week. Prerequisite: CONS 2423.

CONS 2651-2654 TECHNICAL PROJECTS
One to four, maximum four credits. Special project will be assigned by the advisor with the approval of the department head. A comprehensive written report of the work accomplished must be prepared and approved. Before credit is received, an examination may also be required. Prerequisite: completion of three-semesters works in a technical college curriculum or 36 credit hours.
CRIME VICTIM/SURVIVOR SERVICES

CVSS 1103 VICTIMOLOGY
An introduction to victimology, with special emphasis on family violence, sexual violence, child abuse, homicide, the criminal justice system, crime victim compensation, crime victim rights and related issues. Prerequisite: [R] [W].

CVSS 1113 VICTIM SERVICES
An overview of community services dealing with victims of crime, including social, support, crisis intervention, prevention and support services, as well as criminal justice and other systems. The course focuses on the role and response of crime victim advocates and service agencies in addressing the needs of victims of crime. Prerequisites: [R] [W] and CVSS 1103 (Co-requisite: CVSS1103).

CVSS 1213 GRIEVING PROCESS
Explores the issues relating to grief that individuals experience when faced with the loss of someone or something important to them. The stages of grief, bereavement, mourning and grief will be explored, as well as interventions that helping professionals can utilize when dealing with those who have suffered a loss. Prerequisite: PSYC 1113.

CVSS 1213-1326 CVSS-TECHNICAL PROBLEMS
One to six, maximum six credits. Technical problems will be explored, which are of particular interest to crime victims/survivor services majors.

CVSS 2051-2054 CVSS-TECHNICAL PROJECTS
One to four, maximum four credits. The department head will assign special projects. A comprehensive written report (or comparable assignment) of the work accomplished must be prepared and approved by the instructor. Before credit is received, an examination may also be required.

CVSS 2113 ABUSE AND Exploitation of CHILDREN
Child abuse and neglect are examined from psychological, familial, social, legal and cultural contexts. Social and legal systems, reporting requirements, ethical considerations, prevention and intervention resources are explored. Prerequisites: [R] [W].

CVSS 2123 RAPE AND SEXUAL ASSAULT
Reviews the phenomenon of rape, myths about rape and rapists, treatment of rape victims, discussion of physical and psychological preparation for possibility of attacks. Understanding the complexity of these issues will be gained by considering psychological, familial, social, legal and cultural contexts of victimization. Prerequisites: CVSS 1103 and CVSS 1113.

CVSS 2223 LEGAL POLICY IN VICTIM SERVICES
A look at the traditional legislative process and an analysis of the tools of advocacy with government agencies. A discussion of the use of the media in victim services. Current legal rights for victims will be surveyed. Prerequisites: CVSS 1103 and POLS 1113.

CVSS 2233 DOMESTIC AND FAMILY VIOLENCE
The typology and history of family abuse, including legal guidelines, treatment approaches, emotional abuse, sexual abuse, spousal abuse, elderly abuse and child abuse. Prerequisites: CVSS 1103 and CVSS 1113.

CVSS 2231 STRESS MANAGEMENT FOR SERVICE PROVIDERS
Provides students with the knowledge, skills and attitudes necessary to understand the causes and effects contributing to the stress created by being in a helping profession. Methods of dealing with this stress and taking care of self will also be addressed.

CVSS 2232 SPECIAL POPULATIONS IN VICTIM SERVICES
A focus on the additional problems cultural diversity presents for victims in our society. A survey of the history of biased responses and the current need for innovative services for these victims will be addressed. Prerequisites: CVSS 1103 and CVSS 1113.

CVSS 2233 INTRODUCTION TO CRISIS INTERVENTION
A focus on the process and the effects of victimization. A discussion of counseling direct and indirect victims through hot lines, stress reduction, support groups, referrals, etc. will be discussed. Prerequisites: CVSS 1103 and PSYC 1113.

CVSS 2243 CURRENT TRENDS IN VICTIM SERVICES
A systematic analysis of current trends in criminal victimization and the criminal justice process. Victim impact, perpetrator information, victim service needs, ethical, legal and policy considerations will be explored for selected crime areas. Elder abuse, stalking, and other crimes will be explored in depth. Prerequisites: CVSS 1103 and CVSS 1113.

CVSS 2413 ETHICS
This course will prepare students to deal with the professional and ethical issues that most affect the actual practice of counseling or serving as an advocate for victims and survivors of crime. Topics to be covered include dealing with ethical dilemmas, the law, limits of confidentiality and dealing with informed consent and the rights of victims. Prerequisite: CVSS 1103.

CVSS 2511 PROFESSIONAL PRINCIPLES IN VICTIM SERVICES
This course examines appropriate conduct in the work environment and the cultures of several agencies that impact the lives of crime victims. Prerequisites: Concurrent enrollment in CVSS 2512 and consent of department head.

CVSS 2512 OCCUPATIONAL PROFICIENCY
This course is designed to evaluate the graduate’s proficiency in their major field of study. Areas to be assessed include communication skills, job interviewing techniques and professional competencies. Prerequisite: Concurrent enrollment in CVSS 2511 and consent of department head.

CVSS 2513 PRACTICUM
This course will give the student the opportunity to apply knowledge and skills learned in the crime victim/survivor service course work. The practicum will be completed in a facility that can give the student related, hands-on experience in the area of emphasis selected. Prerequisites: completion of 12 credit hours of CVSS courses and consent of department head.

DIETETIC TECHNOLOGY
This is a selective admission program. See department for details.

DT 1001 ORIENTATION TO DIETETICS
Students will learn about the Academy of Nutrition and Dietetics (AND). educational pathways for dietetic professionals, standards of professional practice, the code of ethics, and the standards of practices common in the field. Prerequisite: [R].

DT 1003 DIETETICS AND FOOD SERVICE MANAGEMENT
Students will learn techniques in menu planning, purchasing, production, distribution, service, safety, sanitation and the basic functions of management as they relate to nutrition.

DT 1013 FOOD PREPARATION
Students will study the principles of food selection, preparation techniques and methods and the evaluation and safety of food. Knowledge obtained in lecture will be applied in one hour food lab.

DT 1101 FOOD SERVICE OPERATIONS
This course covers food safety concepts, principles, procedures and guidelines in keeping food safe through the entire flow of food handling from purchasing to service.

DT 1102 NUTRITION ASSESSMENT
A study of nutrients, nutrient metabolism and drug nutrient interaction that will enable the student to conduct appropriate nutrition assessments of individuals and groups. Prerequisite: NSCI 1113.
DT 1213 MEDICAL NUTRITION THERAPY I
Students will study therapeutic diets, the assessment of nutritional needs, appropriate nutritional support and the interpretation of diagnostic data. Management of nutrition, intervention and drug nutrition interaction will be studied in relation to various disease states in individuals throughout the human life cycle. Prerequisite: DT 1102.

DT 2112 FOOD FINANCIAL MANAGEMENT
Students will study personnel and financial management of food service operations. Course will emphasize development of problem solving techniques, decision making and system analysis. Prerequisite: DT 1003.

DT 2113 MEDICAL NUTRITION THERAPY II
Students will continue their study of therapeutic diets, the assessment of nutritional needs, appropriate nutritional support and the interpretation of diagnostic data. Management of nutrition, intervention and drug nutrition interaction will be studied in relation to various disease states in individuals throughout the human life cycle. Prerequisite: DT 1213.

DT 2132 LIFE CYCLE NUTRITION
Students will study the various nutritional needs of individuals at various ages in the human life cycle. Students will learn the methods of establishing those nutritional needs and the means of meeting those needs. Prerequisite: NSCI 1113.

DT 2213 MEDICAL NUTRITION THERAPY III
Students will continue their study of therapeutic diets, the assessment of nutritional needs, appropriate nutritional support and the interpretation of diagnostic data. Management of nutrition, intervention and drug nutrition interaction will be studied in relation to various disease states in individuals throughout the human life cycle. Prerequisite: DT 1313.

DT 2223 PRACTICUM- MEDICAL NUTRITION THERAPY III
Students will develop counseling/interviewing skills related to the preparation of nutrition care plans in relation to life span and to certain disease states. Clinical activities support classroom studies. Related physiology is included.

DT 2233 PRACTICUM- LIFE CYCLE NUTRITION
Students will study good nutritional practices and assist delivering nutritional care in a practical setting with patients whose ages vary from infancy to old age.

DT 2303 NUTRITION IN THE COMMUNITY
Students will examine how to use nutritional principles to promote good health and avoid nutrition-related illnesses in the community.

DT 2312 PRACTICUM-FOOD SERVICE MANAGEMENT
Students will engage in food service management activities in hospital and/or nursing home settings.

DT 2313 PRACTICUM-COMMUNITY NUTRITION
Students will examine how to use nutritional principles to promote good health and avoid nutrition-related illness in the community.

DT 2402 DIETETIC EXAM PREPARATION
Students will review previous coursework and practicum experiences as a means of preparing for the registered dietetic technician exam. Practice exams will also be used to prepare students.

EARLY CARE & CHILD DEVELOPMENT

ECCD 1101 THE EARLY CARE PROFESSIONAL
This course will introduce students to the Early Care Education program and the profession of early care education in Oklahoma. Students will learn the expectations of the Early Care Education program and options for transferring to a university program following completion of the AAS. This course will reinforce computer skills needed for online/hybrid courses. Students will begin the development of their academic portfolio. This course is the GATEWAY for all ECCD courses and should be taken prior to OR concurrently with the remaining early care education courses.

ECCD 1103 INTRODUCTION TO CHILD CARE MANAGEMENT
This course will explain how to plan for and implement administrative systems that effectively carry out an early care program’s mission, goals, and objectives. In addition, students will receive an overview of the various types of programs available in the early care education field. Students will gain an increased awareness of professionalism, as well as an overview of state regulations, Oklahoma’s Reaching for the STARS, environmental rating scales, subsidized child care funding, child and adult food program (CACFP), national credentialing and accreditation programs. Four (4) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite or Concurrent Enrollment: ECCD 1101.

ECCD 1113 CHILD HEALTH, SAFETY AND NUTRITION
This course will introduce students to the importance of working with families, as well as the inclusion of children with differing abilities. Upon completion of this course, the student will have gained a greater understanding of the important role early care education has in helping children develop later abilities to do well in school and life. Upon completion of the AAS Early Care Education program and the profession of early care education in Oklahoma. Students will receive an overview of the various types of programs available in the early care education field. Students will gain an increased awareness of professionalism, as well as an overview of state regulations, Oklahoma’s Reaching for the STARS, environmental rating scales, subsidized child care funding, child and adult food program (CACFP), national credentialing and accreditation programs. Four (4) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite or Concurrent Enrollment: ECCD 1101.

ECCD 1113 CHILD HEALTH, SAFETY AND NUTRITION
This course will introduce students to the importance of working with families, as well as the inclusion of children with differing abilities. Upon completion of this course, the student will have gained a greater understanding of the important role early care education has in helping children develop later abilities to do well in school and life. Upon completion of the AAS Early Care Education program and the profession of early care education in Oklahoma. Students will receive an overview of the various types of programs available in the early care education field. Students will gain an increased awareness of professionalism, as well as an overview of state regulations, Oklahoma’s Reaching for the STARS, environmental rating scales, subsidized child care funding, child and adult food program (CACFP), national credentialing and accreditation programs. Four (4) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite or Concurrent Enrollment: ECCD 1101.

ECCD 1114 CHILD PASSENGER SAFETY & TRANSPORTATION
This course will encompass the National Standardized Child Passenger Safety Training Program. This course will teach individuals the technical skills needed to serve as a child passenger safety technician for their organizations, communities and affiliations. Upon successful completion of this course, individuals will be certified Child Passenger Safety Technicians. In addition, students will participate in the Precision Driving Techniques course at the OSU-Oklahoma City Precision Driving Training Center. This hands-on driving course will teach the principles and techniques used in emergency maneuvers, accident avoidance, evasive steering and emergency stopping. The student is introduced to the causes of vehicle skids, learns how to prevent skids and how to recover from a skid if it is detected early and corrected properly. This course will also include information regarding automobile maintenance/safety checks.
ECCD 1153 PROGRAM & FACILITIES MANAGEMENT FOR FAMILY CHILD CARE HOMES
This course will provide students with an intense study of program and facilities management for family child care homes including, but not limited to, the following topics: staffing for small and large family child care homes — job descriptions/responsibilities, professional development training, criteria for substitutes and guidelines for utilizing substitutes, criteria for volunteers and guidelines for utilizing volunteers; STAR requirements for family child care homes; environmental rating scales specific to family child care homes; daily schedules and routines; environmental design and intentionality of materials and activities used; extended hour care; national accreditation; and, six (6) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite or Concurrent Enrollment: ECCD 1103.

ECCD 1233 COMMUNICATION, LEADERSHIP & TECHNOLOGY
Covering the fundamental elements of effective written, verbal and nonverbal communication, this course focuses on enhancing interactions with staff, co-workers, children, families and the community. Leadership styles and peer mentoring is explored. Students develop and deliver an oral presentation including handouts and visual/technological aids. Extensive use of technology as means to effective communications with families is introduced and applied including blogging and web-pages. Marketing and public relations, as well as working with media entities are also covered. Four (4) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite or Concurrent Enrollment: ECCD 1103.

ECCD 1243 OBSERVING AND ASSESSING THE YOUNG CHILD
This course presents students with in-depth information regarding how to gather information as a way to facilitate children-centered curriculum planning. Students learn effective methods for observing, recording and assessing young children in a variety of early childhood settings. The importance of the “crosswalk” between developmental milestones and Oklahoma’s Early Learning Guidelines is emphasized. The Oklahoma Early Learning Guidelines (ELG’s) will be incorporated in the class. Six (6) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite: ECCD 1133; Next course in sequence: ECCD 2113.

ECCD 1321-1324 ECCD-SPECIAL TOPICS
One to four, maximum six credits. Directed individual study or class in specific topics relating to early care education and administration.

ECCD 2013 PLAY AND DEVELOPMENTALLY APPROPRIATE PRACTICES
This course will study play, how play impacts a young child’s growth and development and how play creates memories that will last for a lifetime. The course will examine the theories of play and the developmental stages of play. Students will design environments that foster play and create developmentally appropriate curriculum to encourage learning through play. The Oklahoma Early Learning Guidelines (ELG’s) will be incorporated in the class. Six (6) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite or Co-requisite: ECCD 1101.

ECCD 2111 CHILD DEVELOPMENT
This course will offer the student an introduction to the most common theories of child development. The child’s physical, cognitive, communication, social and emotional development will be explored. Ten (10) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite: ECCD 1101.

ECCD 2123 CHILD AND FAMILY IN THE COMMUNITY
Socialization in a developmental context regarding the child, socialization for high self-esteem in healthy families and socialization in regard to the early care facility/child/family and community are all covered within this course. Students will also explore methods of effectively interacting with families. Two (2) clock hours of supervised/directed observation assignments must be completed at an approved family court site. Prerequisite or Concurrent Enrollment: ECCD 2113.

ECCD 2133 INFANT/TODDLER PROGRAMMING
A study of prenatal development, birth and infancy through 35 months of age. Special emphasis placed on program planning, implementation and evaluation of developmentally appropriate programs and environments for infants, toddlers and two-year olds. Theory pertaining to physical, cognitive and social emotional development also discussed. Infancy through 35 months of age as a critical period in the psychosocial development of the individual highlighted. The Oklahoma Early Learning Guidelines (ELG’s) will be incorporated in the class. Ten (10) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite or Co-requisite: ECCD 1101.

ECCD 2143 COGNITIVE AND LANGUAGE DEVELOPMENT IN INFANTS AND TODDLERS
This course focuses on cognitive and language development from birth to three years. Sensitive, supportive, and responsive care-giving that meets the needs and interests of infants and toddlers is emphasized. Developmentally appropriate expectations and environments that support the cognitive and language development of infants and toddlers are studied and emphasized. Four (4) clock hours of supervised/directed field experience must be completed at an approved site. Prerequisite or Concurrent Enrollment: ECCD 1103 or ECCD 1123.

ECCD 2153 SOCIAL AND EMOTIONAL DEVELOPMENT IN INFANTS AND TODDLERS
This course focuses on social and emotional development from birth to three years. Sensitive, supportive and responsive care-giving that meets the needs and interests of infants and toddlers is emphasized. Developmentally appropriate expectations and environments that support the social and emotional development of infants and toddlers are studied and emphasized. Four (4) clock hours of supervised/directed field experience must be completed at an approved site. Prerequisite or Concurrent Enrollment: ECCD 1101.

ECCD 2163 PHYSICAL DEVELOPMENT AND CREATIVE EXPRESSIONS
This course focuses on creativity, play, and motor development with appropriate experiences in play, music, art and motor skills for children, birth to eight years, with a special focus on birth to age three. Physical development prenatal to three years is emphasized. Four (4) clock hours of supervised/directed field experience must be completed at an approved site. Prerequisite or Concurrent Enrollment: ECCD 1101.

ECCD 2213 INCLUSION IN EARLY CARE EDUCATION
This course is a study of inclusion within the Early Care Education program: environment, curriculum and interactions with family members while equally serving children with varying physical, emotional, developmental and behavioral needs. Students will study the various characteristics of physical disabilities, while exploring characteristics of diverse needs of young children. Individualized Education Plans (IEP) and Individualized Family Service Plans (IFSP) and Points of Inclusion will also be covered. Students will develop a handbook demonstrating inclusive knowledge and practices within an early care education facility. Six (6) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite: ECCD 1101.

ECCD 2223 LIABILITY, ETHICS & ADVOCACY
A survey course of current liability issues affecting the administration and day-to-day operations of an early care education facility. The National Association for the Education of Young Children (NAEYC) Code of Ethical Conduct will be explored and discussed in regard to various ethical issues early care education programs face. In addition, advocacy and the role of an early childhood advocate will be covered. A research-based paper with an advocacy focus is required. Four (4) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite or Concurrent Enrollment: ECCD 1103 or ECCD 1123.
ECCD 2323 CHILD GUIDANCE, BEHAVIOR AND CLASSROOM MANAGEMENT
This course will provide students with solid child guidance theories, reinforced with positive strategies that will empower their understanding of the child guidance process. Students will gain the knowledge in developmentally appropriate child guidance, different caregiving styles, specific positive discipline strategies and managing the physical environment effectively. Special topics in child guidance will be covered: children and stress, understanding and management of anger, understanding and guiding aggressive children, guiding children toward a healthy sense of self and self-esteem and the development of prosocial behavior. Students will also explore the development and procedures of behavior change within staff members, as well as implementing new guidance procedures. The Oklahoma Early Learning Guidelines (ELG’s) will be incorporated in the class. Twenty-one (21) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisites or Concurrent Enrollment: ECCD 1101.

ECCD 2243 CURRICULUM DEVELOPMENT AND PROGRAM PLANNING
This course will provide students with sound theory and practical application of developing child-centered curriculum, as well as efficient and effective program planning. Strategies covered will include integrating observations into daily developmentally appropriate practice as it relates to the whole child. Included in this course is the opportunity for the student to explore the young child’s valuable learning process through play in areas such as music, art, blocks, emerging literacy, mathematics; as well as mud, sand and water. The Oklahoma Early Learning Guidelines (ELG’s) will be incorporated in the class. Four (4) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisites or Concurrent Enrollment: ECCD 2113.

ECCD 2323 BUDGET DEVELOPMENT AND FINANCE MANAGEMENT
This course is designed to acquaint students with methods of budget planning, development and fiscal control for early care education facility operations. Students will become acquainted with the child care trilemma, as well as explore and develop: utilization factors, annual budgets, monthly budgets, break-even charts, cash flow projections, salary compensation scales, fund-raising and software available for early care education fiscal management. Four (4) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisites or Concurrent Enrollment: ECCD 1113.

ECCD 2553 BASIC BUDGETING AND RECORD KEEPING FOR FAMILY CHILD CARE HOMES
This course will provide students with an intense study of basic budgeting and record keeping specific to small and large family care homes. This course will cover, but is not limited to, the following topics: child care trilemma, utilization factor, simple annual line-item budgets, income/expenses, "buck-stretching" techniques and basic financial planning, time/space percentages, salary pay scales, child and adult care food program, DHS child care subsidy program, per child cost, break even analysis, cash flow analysis, children’s attendance, year-end statements and IRS reporting. Four (4) clock hours of supervised/directed field experience assignments must be completed at an approved site. Prerequisite or Concurrent Enrollment: ECCD 1115.

ECCD 2412 PRACTICUM
These 125 clock hours of field-based experience will allow students to apply and demonstrate their knowledge of early care administration or master teach responsibilities. Students are permitted and encouraged to provide completed course documentation of previously earned OSU-OKC early care education field experience hours as graded and approved by OSU-OKC ECCD course instructor(s) to apply towards the required total 125 clock hours. Overall, this course through guided field experience will enhance student learning and ensure they are capable of functioning as competent members of an early care education staff. Prerequisite: Must have approval by department head.

ECCD 2513 OCCUPATIONAL PROFICIENCY
This course is designed to evaluate the graduate candidate’s proficiency in the major field of study, reinforcing their competency level and integration into the workplace. In addition, students are provided information and connections for transferring their AAS degree to a bachelor of science degree. Areas to be assessed include students' proficiency in six early childhood components: their skill level in designing, implementing and presenting an appropriately planned environmental design for young children; and the students' leadership/administrative competence in communicating, job interviewing, decision making, organization of thought and use of good judgment in accordance with NAEYC Code of Ethical Conduct as exhibited in a variety of administrative/leadership exercises. The Oklahoma Early Learning Guidelines (ELG’s) will be incorporated in the class. Student must complete with 80% satisfaction, the 6-component Early Childhood Exam. This three credit hour class includes 8 clock hours of required lab time in the form of the 2-Part Final Assessment Process given on two separate days. Students must pass with 70% satisfaction, Part 1 and Part 2 of the Final Assessment Process. Prerequisite: Department head approval.

ECON 2023 INTRODUCTION TO MICROECONOMICS
A study of the functioning of the price system; the analysis of market structures; the issues of government policy, the public sector and the market economy; the understanding of resource markets; and an examination of international economic interdependence. Prerequisite: Math proficiency is suggested.
EPT 2133 SUBSTATION CONSTRUCTION AND MAINTENANCE
This course introduces students to the fundamentals of construction and maintenance of substations. The course covers the design, construction, and maintenance of substations, including the use of various materials and equipment. Students will learn about the construction process, including site preparation, excavation, foundation installation, and the installation of electrical equipment. Prerequisites: EPT 2132.

EPT 2533 ADVANCED METERING TECHNIQUES
This course will provide an in-depth study of advanced metering techniques and their applications in the field of electrical engineering. Students will learn about the principles of metering, including the selection and installation of meters, as well as the calibration and testing of electrical equipment. Prerequisites: EPT 2133.

EPT 2603 CAPSTONE/ADVANCED TECHNIQUES/PROBLEMS
This course is designed to provide an opportunity for students to apply the knowledge and skills acquired in previous courses to solve complex electrical engineering problems. The course will focus on the design and implementation of advanced electrical systems. Prerequisites: EPT 2533.

EET 1102 ELEMENTS OF ELECTRICITY AND ELECTRONICS
An introduction to the elementary principles of basic electric units, Ohm's law, circuit solutions of series and parallel network, magnetism, inductance, and capacitance. Offered on demand.

EET 1104 FUNDAMENTALS OF ELECTRICITY
Elementary principles of electricity covering basic electric units, Ohm’s law, Kirchhoff’s law, circuit solutions, network solutions, magnetism, inductance, and capacitance. Lab: two hours per week. Co-requisite: MATH 1513.

EET 1244 CIRCUIT ANALYSIS I
The study of transient analysis and network theorems for electric circuits. This course introduces resonant circuits, filters, AC power and computer aided circuit analysis techniques. Lab: two hours per week. Prerequisite: EET 1104. Co-requisite: MATH 1613.

EET 1321-1324 TECHNICAL PROBLEMS ELECTRONICS
One to four, maximum six credits. Technical problems in electronics that are of particular interest to technicians. Prerequisite: consent of the department head.

EET 2051-2054 ADVANCED TECHNICAL PROBLEMS ELECTRONICS
One to four, maximum four credits. A study of problems in applied engineering science that are of particular interest to the electronics technician.

EET 2101 ELECTRONIC CONSTRUCTION AND DESIGN
Circuit design, test, development and fabrication in wired and printed form. Lab: two hours per week. Prerequisite: EET 2224.

EET 2103 ELECTRONIC INSTRUMENTS
A study of the theory and application of analog and digital test instruments. Included are voltmeters, bridges, oscilloscopes and spectrum analyzers and virtual instruments. Lab: two hours per week. Prerequisite: EET 2224.

EET 2224 ELECTRONIC AMPLIFIERS I
A study of the theory and application of amplifiers using bipolar and FET transistors. Bias stabilizing and feedback techniques along with RC coupling, direct coupling and transformer coupling circuits will be studied in this course. Lab: two hours per week. Prerequisites: EET 1104 and EET 1244.

EET 2234 ANALOG AND DIGITAL SYSTEMS
A summarization of topics covered in the electronics curriculum including ADC, DAC, operational amplifiers, dynamic circuit analysis and physics. This course will include Laplace Transforms, transfer functions and DC motors used to form a closed loop system. PID control theories will be examined to show how an analog system can be controlled by a digital device such as a computer. Lab: three hours per week. Prerequisites: EET 1244 and EET 2333 and MATH 2133.

EET 2333 INDUSTRIAL COMPUTER PROGRAMMING
A course specifically designed for technology students, in software development techniques using higher-level languages such as SHELL or “C.” Areas of emphasis include formatting, looping, decision-making, arrays and structures. Industrial applications are stressed. Lab: three hours per week. Prerequisites: EET 2373.

EET 2373 DIGITAL LOGIC ANALYSIS
The study of number systems, digital codes, Boolean algebra, logic simplification and Karnaugh mapping, timing and control including registers, counters, decoders and multiplexers as related to digital systems. Lab: two hours per week. Co-requisite: EET 1104.

EET 2434 ELECTRONIC COMPUTERS
The methods of using electronic circuits to perform computations, the elements of digital computer and the organization of these elements in a functioning computer. Lab: two hours per week. Prerequisite: EET 2373.

EET 2643 OPERATIONAL AMPLIFIERS
A study of operational amplifiers, their characteristics and applications will be presented in this course. Other linear devices such as voltage regulators, phase-lock loops and function generator chips will also be studied. Lab: three hours per week. Prerequisites: EET 1244 and EET 2224.
EET 2651-2654 TECHNICAL PROJECTS ELECTRONICS
One to four, maximum four credits. Special project will be assigned by the advisor with the approval of the department head. A comprehensive written report of the work accomplished must be prepared and approved. Before credit is received, an examination may also be required. Prerequisite: completion of three semesters work in a technical college curriculum or 36 credit hours.

EET 2764 ELECTRONIC COMMUNICATIONS SYSTEMS
An introduction to the basic principles and components of receivers and transmitters used in modern communications. Lab: three hours per week. Prerequisite: EET 2224.

EET 2814 MAINTENANCE OF MICROCOMPUTER SYSTEMS
Maintenance of microcomputer systems as used in business and industry. Transducers, advanced programming and troubleshooting microcomputer systems including transducers and peripherals. Lab: three hours per week. Prerequisite: EET 2373.

EET 2854 INDUSTRIAL MICROCOMPUTER APPLICATIONS
Industrial applications of microcomputer/microprocessors for process control. Involves the selection of equipment, interfacing and making process control systems operational. Lab: three hours per week. Prerequisite: EET 2454.

EMERGENCY RESPONDER ADMINISTRATION
This is a selective admission program. See department for details.

ERA 3013 MULTI-AGENCY RESPONSE TO EMERGENCY/CRITICAL INCIDENTS
Students examine the unique role of the local first responder. Students will identify the common elements of a disaster response and the roles of each emergency responder discipline in the response and recovery. Course emphasis is on the actions and procedures “at the scene” where decisions are made rather than concepts and policies applied by officials physically removed from the scene.

ERA 3023 MULTI-AGENCY PERSONNEL OVERSIGHT STRATEGIES
This course will explore the dynamics of managing personnel in the public safety organization. Curriculum is designed to develop student skills in personnel management, staffing, compensation, benefits and labor relations.

ERA 3043 COMMUNITY RELATIONS DURING CRISIS: THEORY AND PRACTICE
This course will explore the community relations theory and why positive community perception is critical to operational effectiveness during a crisis event. Students will gain the skills necessary to be effective communicators and educators to the public in times of crisis and in their daily function as an emergency response administrator. The course will also develop the skills necessary to interact with the media regarding public safety issues and crisis situations.

ERA 3053 COOP COG AND PUBLIC SAFETY CONTINGENCY PLANNING
This course provides the student with a knowledge of the techniques for the development of continuity of operations (COOP) and Continuity of Government (COG) plans, event and community hazard planning. This courses overall philosophy is set forth by the Department of Homeland Security, the Environmental Protection Agency and Department of Transportation and their internal agencies. Sample plans will be developed with emphasis on assessment, equipment requirements, collateral and mutual aid support agreements and methods for testing and updating plans.

ERA 3063 INTRODUCTION TO TERRORISM
THREATS Upon completion of this course the student will understand the history and motivation of Terrorists and their activities. The student will examine how groups and individuals evolve from activism and how governments respond to such events.

ERA 3133 STRATEGIC PLANNING AND RISK ANALYSIS IN PUBLIC SAFETY AGENCIES
This course will help the Public Safety Administrator to formulate vision, mission and strategic plans. Detect the strengths, weaknesses, opportunities and threats (SWOT) that drive strategy. Identify strategies to better position the agency for long term community service. Execute strategy and deliver results through people and processes. Establish strategic planning, monitoring and controlling mechanisms that ensure positive results.

ERA 3143 LEADERSHIP IN PUBLIC SAFETY
This course is designed to provide leadership skills within Public Safety Operations. It will provide training in public safety leadership, collective bargaining, communications needed between management and labor. It will also educate new supervisors to adapt and problem solve issues that may be encountered while dealing with public safety employees.

ERA 3153 PUBLIC SAFETY CAPABILITIES AND PERFORMANCE-BASED PROGRAMS
Upon completion of this course the Fire Service student shall demonstrate an understanding of the Homeland Security crisis. These methods will promote the ability to adapt and succeed during the planning, mitigation, response and or recovery stage of a disaster.

ERA 3233 INTRO TO COMMUNITY CORRECTIONS
This course is designed to familiarize the student with the most recent developments in community-based corrections, issues in their implementation and management, effectiveness and challenges. It provides detailed descriptions and studies of major alternative to incarceration, assumptions underlying programs and outGDe studies. This course is structured to provide motivated students with opportunities to master a body of knowledge and practice of correcting law violators, as well as comprehending the current state of the art in community corrections.

ERA 3533 TECH RESEARCH & DESIGN FOR EMERGENCY RESPONDERS
This class will incorporate both quantitative and qualitative research methods and the application of statistical analysis of data. Introduction to the utilization of clinical and management information systems to access, archive and analyze data will be examined. Application of theoretical constructs and identification of cost/quality researchable issues will be evaluated through the development of student research proposals. Students will develop understanding of class concepts through application of learned principles within his/her practice setting.

ERA 3650(3651-3654) TECHNICAL PROJECT 3000 LEVEL
A study of variable topics in emergency responder technologies at the 3000 level. May be repeated with different topics.

ERA 4003 TACTICAL EMERGENCY MANAGEMENT
Students will focus on a comprehensive, up-to-date overview of emergency management, from an all-hazards perspective. Students will examine threats including natural and technological disasters, as well as intentional threats of domestic and international terrorism.

ERA 4013 TECHNICAL DISSEMINATION OF EMERGENCY PUBLIC INFORMATION
Students explore the role of traditional (print, radio, and television) and newer media technologies in the distribution of the news. Students examine the functions, roles, responsibilities, and behavior of the media in times of national and international threats to national security as well as local incidents. Students will apply “tools” learned in class to address the media and present information to the general public in an effective and responsible manner.

ERA 4023 ETHICAL PRACTICES IN EMERGENCY RESPONSE PROFESSIONALS
This course explores the case issues and philosophies as they relate to accountability in the public safety environment.

ERA 4050(4051-4054) TECHNICAL PROJECT 4000 LEVEL
A study of variable topics in emergency responder technologies at the 4000 level. May be repeated with different topics.
ERA 4123 INTERNATIONAL ASSESSMENT AND RESPONSE TO CRISIS
students will evaluate international critical events, cultures, beliefs, and response to disasters. The student will be provided practical and theoretical education in global disaster management. This course will cover the management of preparedness, response, recovery and mitigation of disasters the world faces today.

ERA 4133 LEGAL ISSUES FACING EMERGENCY RESPONSE AGENCIES
Students examine the structure and dynamics of the law governing the authority and actions of responding agencies. Students will receive an in-depth overview of laws, policy, strategy, organization and plans for dealing with various natural, accidental and premeditated emergencies/critical incidents.

ERA 4213 ADVANCED OCCUPATIONAL PROFICIENCY FOR EMERGENCY PROVIDERS
This course is an advanced course designed to evaluate the graduate’s proficiency in their major field of study. The evaluation will be based on the student’s ability to apply skills in scenario-based exercises relevant to real world situations. Students will be assessed on their communication skills, organization, critical thinking and assessing problems and applying viable solutions. Prerequisites: ERA 3013, ERA 3043, ERA 4003 & PSER 3333

ERA 4323 PRACTICUM
Student will be required to complete a field placement in the emergency response field. Prerequisite: 24 ERA credit hours completed or Department Head approval.

ERA 4343 PUBLIC SAFETY GRANT WRITING
The purpose of this course is to develop the students’ ability to prepare, write and submit a research grant proposal. In this course the student will actually write a public safety grant application and submit the grant with peer review. Prerequisites: (ENGL 1213 or ENGL 2533), ERA 3013, PSER 3333

ERA 4523 CRITICAL INCIDENT PSYCHOLOGY FOR PUBLIC SAFETY
Emphasis of this course is on Public Safety employees and their psychological well being before during and after critical incident response. The student will also learn and understand compassion fatigue, traumatic stress and crisis intervention as it relates to the specific needs of community during the same event.

ENGINEERING

ENGS 2113 STATICS
Resultants of force systems, static equilibrium of rigid bodies and statics of structures. Shear and moment diagrams. Prerequisite: PHYS 2014.

ENGS 2123 ELEMENTARY DYNAMICS
Dynamic equilibrium of particles and bodies. Work-energy and impulse momentum principles. Prerequisite: ENGS 2113.

ENGS 2143 STRENGTH OF MATERIALS
Bending moments, deformation and displacements in elastic and plastic deformable bodies. Prerequisites: PHYS 2014 and MATH 2265 and ENGS 2113.

ENGS 2213 THERMODYNAMICS
Properties of substances and principles governing changes in form of energy. First and second laws. Prerequisites: PHYS 1515 and PHYS 2014. Offered on demand.

ENGS 2613 INTRODUCTION TO ELECTRICAL SCIENCE
Elements of electrical engineering. AC and DC circuits, mesh and node formulation of network equations, steady-state response to sinusoids, energy, power and power factor. Lab: three hours per week. Prerequisites: PHYS 2114. (Su and on demand)

ENGLISH

ENGL 1013 INTERNATIONAL FRESHMAN COMPOSITION I
Restricted to students whose native language is not English. Special attention to problems of English as a second language. Intensive writing instruction, focusing on analysis. Emphasizes strategies for reading critically, analyzing texts from diverse perspectives, and developing substantive written assignments through systematic revision, addressing specific audiences, integrating sources, and expressing ideas with clarity and correctness. Prerequisite: [R] [W]

ENGL 1123 ENGLISH COMPOSITION II
Intensive writing instruction focused on analysis, argument strategies, research, and revision. Students produce academic writing using different argument forms with attention to audience, clarity, and correctness. Emphasis is on the researched argument, including evaluating, integrating, and citing academic sources. Prerequisite: Engl 1113

ENGL 1923 MASTERPIECES OF LITERATURE (H)
Readings in the great works of the most important writers of Britain and the United States, such as Shakespeare, Dickens, Twain, Faulkner and others. Prerequisite: ENGL 1113.

ENGL 2051-2056 SPECIAL TOPICS IN ENGLISH (H)
Special topics in English will be explored. These special topics include but are not limited to African-American Literature, Introduction to Rhetoric and the exploration of specific authors or literary movements.

ENGL 2333 INTRODUCTION TO TECHNICAL REPORT WRITING
Intensive writing instruction focused on clear communication and conciseness. Course helps students hone technical communication skills while writing of definitions, process descriptions, proposals, and other major reports. Prerequisite: Engl 1113.

ENGL 2353 AMERICAN INDIAN LITERATURE (H)
General survey of various types of traditional and contemporary American Indian writing, particularly legends, myths, oratory, poetry, short stories, novels and memoirs. Prerequisite: ENGL 1113.

ENGL 2513 INTRODUCTION TO CREATIVE WRITING (H)
Literary composition with emphasis on techniques and style through readings and writings in fiction, playwriting, poetry, and creative non-fiction. Prerequisite: Engl 1113.

ENGL 2773 AMERICAN LITERATURE I (H)
A survey of major American writers and literary movements from the colonial period to the Civil War. Prerequisite: ENGL 1113.

ENGL 2883 AMERICAN LITERATURE II (H)
A survey of major American writers and literary movements from the Civil War to present. Prerequisite: ENGL 1113.

ENGL 3173 WORLD LITERATURE II (H)
Selected literary masterpieces exemplifying ideals and values in non-western cultures. Emphasis on the study of non-western literature available in English. Prerequisite: ENGL 1213
FPST 1113 INTRODUCTION TO ENVIRONMENTAL SCIENCE
This course provides an introduction to Environmental Science and treats it as an interdisciplinary study, combining ideas and information from natural sciences (such as biology, chemistry and geology) and social sciences (such as economics, politics and ethics) to present a general idea of how things are interconnected. This study of connections in nature examines how the environment is being used and what individuals and EH&S professionals can do to be good stewards of it. Prerequisites: STAT 2013, ENGL 2333, CHEM 1314.

FPST 1123 INTRODUCTION TO ENVIRONMENTAL MANAGEMENT
This course provides an introduction to environmental management and treats it as an interdisciplinary study, combining ideas and information from the sciences (such as biology, chemistry and geology), mathematics, safety and occupational health in order to present general principles of the comprehensive management of environmental concerns within general industry practice. This course also focuses on the interdependence between the disciplines of safety occupational health, fire protection, and hazardous materials and waste management to the disciplines of environmental management. Prerequisites: FPST 1513, FPST 1813, CHEM 1314, STAT 2013, and ENGL 2333.

FPST 1213 FIRE AND SAFETY HAZARDS RECOGNITION
An intensive study of “the fire problem.” A survey of physical, chemical and electrical hazards and their relationship to loss of property and/or life. Transportation and handling practices are emphasized to eliminate or control the potential risk of fire in the home, business and industry. Lab: three hours per week. Prerequisite: ENGL 1113 and CHEM 1314.

FPST 1313 INTRODUCTION TO OCCUPATIONAL SAFETY
A course in industry safety, giving an overview of state and national regulations in safety. The course will also cover the basic areas of an industrial safety program, as well as reporting, investigating and analyzing the results. Prerequisite: ENGL 1113.

FPST 1321-1324 TECHNICAL PROBLEMS - FIRE PROTECTION
One to four, maximum six credits. Technical problems in fire protection that are of particular interest to technicians. Prerequisite: ENGL 1113 and consent of the department head.

FPST 1373 FIRE SUPPRESSION AND DETECTION SYSTEMS
Scope of study includes the design, installation, maintenance and utilization of portable fire extinguishing appliances, pre-engineered systems and engineered systems. Fire detection and signaling systems are evaluated for operational capabilities and utilization requirements. Modern principles of fire detection and suppression are applied to practical laboratory problems. Lab: three hours per week. Prerequisite: FPST 1213.

FPST 1513 OSHA REGULATIONS AND SAFETY CODES
A course designed to give the student a working knowledge of the OSHA (Occupational Safety and Health Administration) regulations, including interpretation, protest procedures, and inspection procedures. Also, the student will gain an understanding of equipment, material and staffing needs in relation to OSHA requirements. Prerequisite: ENGL 1113.

FPST 1684 INDUSTRIAL LOSS PREVENTION I
An examination of specific industrial processes, equipment, facilities and work practices to understand potential hazards and techniques for detecting and controlling such hazards. Lab: three hours per week. Prerequisite: ENGL 2333, MATH 1513, CHEM 1314, FPST 1513, ARCH 1103.

FPST 1813 INTRODUCTION TO ENVIRONMENTAL LAW
A study of environmental laws, statutory rules, regulations and compliance issues as they apply to industry. Prerequisites: ENGL 2333, MATH 1513, CHEM 1314, FPST 1513.

FPST 2051-2056 ADVANCED TECHNICAL PROBLEMS
One to six credit hours with a maximum six credits that can be earned. Advanced Technical Problems is a course in occupational and environmental health and safety that are of particular interest to technicians. Prerequisites: ENGL 1113 or consent of department head.

FPST 2143 STRUCTURAL DESIGNS FOR FIRE AND LIFE SAFETY
Building construction methods are critically examined within the scope of pertinent standards and building codes to assure maximum life safety and property protection from fires, explosions and natural disaster. Course will focus on the use and application of the International Building Code and the NFPA Life Safety Code. Students will develop a working knowledge of building construction types and recognize the relative hazards inherent in each type. Lab: three hours per week. Prerequisite: ARCH 1103 and ENGL 1113.

FPST 2243 DESIGN AND ANALYSIS OF SPRINKLER SYSTEMS
Detailed application of current standards of selection, design, installation, operation and maintenance of automatic fire suppression systems. Concurrent laboratory problems stress applicable principles. Lab: three hours per week. Prerequisites: FPST 1373 and MATH 1513 and FPST 2483.

FPST 2263 INDUSTRIAL LOSS PREVENTION II
Continuation of FPST 1684. Industrial Loss Prevention I. A continuing examination of specific industrial processes, equipment, facilities and work practices to understand potential hazards and techniques for detecting and controlling such hazards. Lab: 1.5 hours per week. Prerequisite: FPST 1684.

FPST 2323 ENVIRONMENTAL SITE ASSESSMENTS
Prepares student in the activities required for industries to meet federal compliance standards. Focusing on site assessments and environmental impact studies on construction, remodeling and manufacturing. Prerequisites: ARCH 1103, FPST 1813.

FPST 2344 ELEMENTS OF INDUSTRIAL HYGIENE
A study of toxic or irritating substances, environmental pollution sources and controls, and physical, biological, ergonomic and other occupational stress factors causing employee illness or discomfort. Prerequisite: ENGL 2333, CHEM 1314, STAT 2013.

FPST 2403 SAFETY MANAGEMENT TECHNIQUES
A study of the components necessary in a safety program including records, workman’s compensation, promotion motivation, inspection and audits, training, safety meetings, accident investigation and fleet safety. Lab: two hours per week. Prerequisites: ENGL 2333, FPST 1513, and MATH 1513 or STAT 2013.

FPST 2413 INDUSTRIAL HYGIENE INSTRUMENTATION
Studies specific industrial hygiene problems including evaluation, instrumentation, recognition and control of physical exposure, air contaminants, stress, heat, noise and radiation. Lab: two hours per week. Prerequisites: FPST 2344.

FPST 2423 ENVIRONMENTAL AUDITING AND COMPLIANCE
Prepares the student to understand the laws, statutes and regulations that are involved in performing and documenting the Environmental Audit. Prerequisites: ARCH 1103, FPST 1813.

FPST 2483 FIRE PROTECTION HYDRAULICS AND WATER SUPPLY ANALYSIS
A study of the mechanics of fluid flow through hoses, pipes, pumps and fire protection appliances. Water supply and distribution facilities are analyzed by hydraulic calculations and applied testing techniques to detect anomalies in design or performance capabilities. Lab: three hours per week. Prerequisite: FPST 1373 and MATH 1513.

FPST 2633 INTRODUCTION TO ENVIRONMENTAL AND HAZARDOUS MATERIALS CHEMISTRY
The basic chemistry of hazardous materials, hazardous waste and pollutants is studied, including associated fire and safety concerns. Principles and techniques used to recognize, evaluate and control potential hazards is stressed. Sampling strategies and techniques are stressed, as are the basics of spill response and clean up. Lab: 1.5 hours per week. Prerequisites: CHEM 1314 and ENGL 1113.
FPST 2651-2654 TECHNICAL PROJECTS - FPST
One to four, maximum four credits with a maximum of four credits that can be earned. A special project will be assigned by the department head. A comprehensive written report of the work accomplished must be prepared and approved before credit is received. An oral examination may also be required. Prerequisite: completion of three semesters work in a technical college curriculum or 36 credit hours. Offered on demand.

GEOMETRY

GEOG 2253 WORLD REGIONAL GEOGRAPHY
The world's major culture regions, with emphasis on geographic aspects of contemporary economic, social and political relationships with the physical environment. Prerequisites: [R] [W]

GEOLOGY

GEOL 1114 PHYSICAL GEOLOGY (L, N)
Composition and structure of the earth and the modification of its surface by internal and external processes. Emphasis upon mineral resources, sources of energy and environmental aspects of geology. Field trips required. No credit for students with prior credit in GEOL 1014 - General Geology. Lab: two hours per week. Prerequisites: [R] [M] [SCI]

GEOL 1224 HISTORICAL GEOLOGY (L, N)
Earth history, with major emphasis on mountain building, development of continents and oceans and evolution of animals and plants. Field trips required. Lab: three hours per week. Prerequisite: GEOL 1114.

GRAPHIC DESIGN

*GDD 1253 COMPUTER GRAPHIC ILLUSTRATION
Study of basic concepts of computer graphics. Design and use of graphic software applications. Students will learn design and presentation skills. Prerequisites: [R]. Fall only.

*GDD 1313 INTERNET FUNDAMENTALS
Introduction to the worldwide computer network. Course uses a hands-on approach to teach students the history and capabilities of the Internet. Students learn the resources available via the World Wide Web and searching capabilities. Same as ITD 1323-Can be cross listed Prerequisites: [R] placement test or CIS 1003.

*GDD 1321-1324 TECHNICAL PROBLEMS-GDD
One to four, maximum 6 credits. Technical problems in telecommunications which are of particular interest to GDD students. Prerequisite: consent of department head.

*GDD 1333 DESKTOP PUBLISHING I
Overview of desktop publishing, where an individual (through the proper equipment and software), can manipulate existing material or prepare new materials for printing. Course will concentrate on basic layout and design and practical applications of word processing, graphics and pagination programs important to creating attractive and effective documents at a lower cost than traditional printing methods. Prerequisite: [R].

*GDD 1463 COMPUTER ART
Introduction to computer graphics software. Students learn methods and processes for creating artwork with the computer. Phases of computer graphics include draft and paint modes, fills, textures, brushes, graphic tools and color blending through hands-on exercises in drawing, painting and graphic design. Prerequisite: [R]. Fall only.

*GDD 1523 ELECTRONIC COMMERCE
Understanding e-commerce (electronic commerce) is essential for success in today's economy. This course explores both sides of business on the Internet, from the viewpoint of the consumer and of a business. Prerequisites: [R]

*GDD 2033 WEB PAGE DESIGN
Basic introduction to HTML (hypertext markup language) and to the theories and concepts of publishing on the World Wide Web. Students will construct a Web page using HTML. Prerequisite: ITD 1323.

*GDD 2133 ADVANCED WEB PAGE DESIGN
This course covers multi-level navigation strategies, cascading style sheets and scripting languages. Prerequisite: ITD 1323 and GDD 2033. Fall only.

*GDD 2143 WEB PROGRAMMING
This course is an introduction to Active Server Pages (ASP+). It is a hands-on and lecture course for students to become familiar with developing advanced Web applications using Active Server Pages (ASP+). Topics include using advanced Web development tools, the Active Server Page model, processing forms, integrating Web applications with data and other server-based applications, configuring Web applications and using Web services to integrate Web applications. Prerequisite: CIS 1123 and GDD 2133. Spring only.

*GDD 2233 COMPUTER ANIMATION
Introduction to computer-aided animation, including generation and sequencing of images by computer to produce animation. Prerequisite: [R] Spring only.

*GDD 2251-2256 TECHNICAL PROBLEMS IN TECHNICAL COMMUNICATIONS
One to four, maximum six credits. Technical problems of particular interest to the technical writing student. Prerequisite: consent of department head.

*GDD 2263 DIGITAL MEDIA
Introduction to digital images and image editing software applications. Course covers using a digital camera, media transfer, resolution, enhancing and altering images. Prerequisite: [R]. Fall only.
HEALTH CARE MANAGEMENT

HCM 1143 HEALTH CARE SYSTEMS/OPERATIONS
An overview of health care delivery systems including different models and components and their applications. A brief historical summary, the interface of public and private organizations and review of the various personnel who comprise these systems, will be examined in relation to their impact on health care delivery.

HCM 1153 MEDICOLEGAL PRINCIPLES AND ETHICAL ISSUES
This course will review local, state and federal legislation as they relate to health care systems and delivery, as well as analyze relevant medicolegal principles and concepts. An overview of medical ethics will be presented, and a variety of related ethical issues will be explored.

HCM 1173 THIRD PARTY PAY/HEALTH ISSUES
This course covers the role of the health insurance specialist, legal concerns, managed care, the life-cycle of a health insurance claim, diagnosis coding procedures, the ICD-9-CM, CPT and HCPCS coding systems, HCFA reimbursement, coding from various source documents, BCBS, Medicare and Medicaid, TRICARE/CHAMPUS and workers' compensation.

HCM 1183 HEALTH CARE CODING/BILLING
This course covers procedural coding guidelines for the icd-9-cm classifications, cpt coding, evaluation and management, primary care, anesthesia/general surgery, the integumentary system, orthopedics, cardiology, ob/gyn, radiology, pathology and laboratory, billing and collections, filing the claim form, handling reimbursement and auditing/appeals.

HCM 2163 HEALTH CARE MANAGEMENT
An introduction to Emergency Medical Services and Health Care Management focusing on human resources, organizational structures, medico-legal issues, contracts/agreements, risk management, deployment/staffing and policies and procedures.

HCM 2173 HEALTH CARE HUMAN RESOURCE MANAGEMENT
A continuation of HCM 2163, reviewing basic principles and methods of financing, budgeting, accounting, purchasing and inventory control and marketing. A brief overview of research fundamentals and computer applications for health care managers is also included. Prerequisite: HCM 2163.

HCM 2183 EMS/HEALTH CARE SUPERVISION
A study of principles and methods utilized in the supervision of health care personnel and related activities or operations. Examines the supervisory process and its practical application in a variety of health care settings and situations. Leadership, decision-making and effective communication skills are also emphasized through role-play activities.

HCM 2193 HEALTH CARE PROVIDER RELATIONSHIPS
This course deals with the problems of management of the small working unit (division, department, section, etc.) within a larger health care agency. Included items will be unit goals, identification of problems, staffing needs, monitoring of work progress, unit communications and interpersonal relations within the unit.

HCM 2233 INTERNSHIP (PRACTICUM)
Field experience providing learning through observation and participation in administrative activities, which allows the application of knowledge and skills learned in coursework. (Placements are arranged in an existing health care system/agency to support role development consistent with the student's career goals and work experience.) Prerequisites: HCM 2163 and HCM 2173 and HCM 1143.

HEALTH, PHYSICAL EDUCATION AND RECREATION

(Note: HPER courses are pass or fail only.)

HPER 1011 INTRODUCTION TO GOLF
Develop and make practical the basic fundamentals of golf.

HPER 1101 INTRODUCTION TO WELLNESS
Assessment of present health status, learning new options for life style and incorporating those which are useful to the individual.

HPER 1111 INTERMEDIATE GOLF
Develop and make practical the advanced fundamentals of golf. Prerequisite: instructor approval.

HPER 1151-1152 PHYSICAL EDUCATION
One to two, maximum eight credits. Instruction and participation in physical exercise activities. Topics vary.

HISTORY

HIST 1483 U.S. HISTORY TO 1865 (S)
From European background through the Civil War. Satisfies with POLS 1113, Oklahoma State Regents for Higher Education requirement of six credit hours of U. S. History and American Government before graduation. No credit for students with credit in HIST 1103. Prerequisites: [R] [W]

HIST 1493 U.S. HISTORY SINCE 1865 (S)
Development of the United States, including the growth of industry and its impact on society and foreign affairs. Satisfies with POLS 1113 Oklahoma State Regents for Higher Education requirement of six credit hours of U. S. History and American Government before graduation. No credit for students with prior credit in HIST 1103. Prerequisites: [R] [W]
HRT 2123 AFRICAN AMERICAN HISTORY
This course is a multi-disciplinary exploration of the major contours of African-American history, literature, and arts. Temporally, it covers the introduction of Africans to America as slaves through the civil rights movement. The class seeks to include contributions to the subject from the areas of history, literature, and the arts. Prerequisites: [R] [W]

HRT 1173 MARKET GARDENING – FALL/ WINTER PRODUCTION
This course will address fall and winter production of various horticultural crops including vegetables, fruits and ornamentals for direct markets. Cultural practices including soil building, fertilization, pest management, harvest and post harvest handling will be addressed. This course will also cover season extension structures, equipment needs, farm management, and marketing. Lab Included. Co-Requisite: HRT 1013. (F)

HRT 1183 MARKET GARDENING – SPRING/ SUMMER PRODUCTION
This course will address spring and summer production of various horticultural crops including vegetables, fruits and ornamentals for direct markets. Cultural practices including soil building, fertilization, pest management, harvest and post harvest handling will be addressed. This course will also cover season extension structures, equipment needs, farm management, and marketing. Lab Included. Co-Requisite: HRT 1013. (SP)

HRT 1153 WORLD HISTORY TO 1500
An overview of world history from the birth of the first human civilizations to the end of the European Middle Ages. Emphasis is on major political, military, intellectual, and religious events and movements that have shaped world history. Prerequisites: [R] [W]

HRT 1193 LANDSCAPE GRAPHICS I
Drafting and illustration techniques for landscape designs. Introduction to landscape drawing, delineation, lettering and color rendering with applications to simple and more complex landscape plans. Lab Included. Additional $15 lab fee. Prerequisites: [R] and ICSW 0033. (SP)

HRT 1253 INTRODUCTION TO HORTICULTURAL THERAPY
Overview of horticulture as a therapeutic medium for special populations. Emphasis on working with the mentally and physically disabled, geriatrics, substance abuse recovery program participants and other clientele. History of horticultural therapy; community gardens and adaptive tools are explored. Lab focuses on the implementation of specific horticultural activities for special populations. Lab Included. Additional $25 lab fee. Prerequisites: [R] and ICSW 0033. (F)

HRT 1321-1323 TECHNICAL PROBLEMS - HORTICULTURE
One to three credits, six credits maximum. Technical problems in horticulture that are of particular interest to horticulture majors. Prerequisite: consent of department head.

HRT 1413 MATH APPLICATIONS FOR HORTICULTURE
Topics include learning measurement and quantity applications as commonly encountered in gardens, landscape design, landscape contracting, turfgrass management, greenhouse operations and interior/scape maintenance. Emphasis on calculating based on units of measure. Prerequisites: HRT 1013 and ICSM 0123.
HRT 1423 LANDSCAPE BIDDING AND CONTRACTS
Investigation of professional principles and practices in the field of landscape contracting, focusing on costs of business and project implementation. Course work includes: estimating costs for landscape installation and maintenance, bidding on landscape installation and maintenance work, preparation and review of contracts for landscape installation and maintenance, controlling the work and costs of the work under the terms of landscape contracts and subcontracts, and administering a landscape contracting business. Prerequisites: HRT 1013, MATH0123 and CIS 1113 or CIS 1503. (sp)

HRT 1503 VITICULTURE – INTRODUCTION, SITE SELECTION AND COLD PROTECTION
Provides information about the viticulture history, geographic location where grapes are grown and climatic conditions necessary for viticulture production. Also provides information about clone, variety and rootstock selection. Field oriented experience in vineyard layout, including site selection and preparation, as well as irrigation and frost protection systems. Lab Included. Prerequisite: HRT 1013. (f)

HRT 1513 VITICULTURE – ESTABLISHMENT AND PROPAGATION
Designed to introduce students to morphological characteristics of the grape plant and the process of propagation during the dormant season through bud break. Field experience in the process of vineyard establishment, including trellising and training. Additional field experiences in advanced propagation techniques including vineyard nursery management. Provides students with the skills necessary to prune an established vineyard and emphasizes methods of crop adjustment for improvement of fruit quality. Lab Included. Prerequisite: HRT 1013. (sp)

HRT 1523 VITICULTURE – CANOPY AND HARVEST MANAGEMENT
Provides skills necessary for maintaining the vineyard from the point of pre-bloom through harvest. Emphasizes crop monitoring techniques, pruning, vine manipulation, techniques to determine vine health, pesticide scheduling, handling and application as well as irrigation and fertility management of the vineyard. Additional field experience with harvest management including equipment, processing and handling. Lab Included. Prerequisite: HRT 1503 or HRT 1513. (su)

HRT 1723 GROUNDS MAINTENANCE EQUIPMENT: MECHANICS AND REPAIR
Addresses grounds maintenance power-equipment selection, function and operations. Emphasis is placed on hydraulic systems, trouble-shooting, repair and adjustment of the equipment.

HRT 1843 IRRIGATION AND DRAINAGE DESIGN
This course is designed to teach student basic principles of irrigation and drainage design. Students will be presented with engineering aspects of water dynamics and hydraulics. Additional topics include soil-water-plant interactions, system components, electrical systems and business practices and estimating. Students will design irrigation systems for residential, commercial and sport fields. Lab Included. Prerequisites: R and ICSW 0033.

HRT 2003 HORTICULTURAL THERAPY PROGRAM MANAGEMENT
Advances the skills necessary to develop, implement and manage new or existing horticultural therapy programs. Emphasis on patient assessment, establishment of realistic client goals, structuring of horticultural activities and documentation of services. Additional focus on marketing and public relations, funding, grant writing, volunteer management and non-profit organizations. Prerequisite: HRT 1253. (sp)

HRT 2013 MAINTENANCE OF LANDSCAPE PLANTS
Preparation of soil, pruning and training of ornamental trees, shrubs and vines, pest and disease control, fertilization and environmental factors which affect the care and maintenance of landscape plants. Lab Included. Prerequisite: HRT 1013. (sp)

HRT 2023 HORTICULTURAL SOIL SCIENCE
Principle physical, chemical and biological properties of the soil as related to horticultural plant growth. Soil testing and fertilizer usage: formation and classification of soils, rural and urban land use. Prerequisites: HRT 1013. (sp)

HRT 2051-2055 ADVANCED PROBLEMS-HORTICULTURE
One to six credits, six credits maximum. A study of applied problems that are of particular interest to horticulture majors. Lab Included. Prerequisite: consent of department head.

HRT 2113 TURFGRASS MANAGEMENT
Selection, establishment and maintenance of turf grass, use of equipment, identification of weeds and chemicals used for turf management. Lab Included. Prerequisite: HRT 1013. (f)

HRT 2123 LANDSCAPE DESIGN THEORY
The understanding and use of basic design principles and elements and their application to landscape design. Theories of analysis, planning and organization of outdoor spaces for human use and enjoyment. A look at historical styles and approaches to landscape architectural design, and past and present design theories. The study of uses of plant materials for design effect. Lab Included. Additional $15 lab fee. Prerequisites: HRT 1013 and HRT 1103. (f)

HRT 2133 NURSERY MANAGEMENT AND OPERATIONS
The propagation, production, management and marketing of commercial nursery stock including facilities, equipment, supplies, environmental and pest control. Lab Included. Prerequisite: HRT 1013. (f)

HRT 2143 LANDSCAPE DESIGN APPLICATIONS
The use of materials, methods of construction, and related systems to support the design process. Emphasis on solving landscape problems through logical analysis and application of design skills. Lab Included. Additional $15 lab fee. Prerequisite: HRT 2123, HRT 2313 and/or HRT 2413. (sp)

HRT 2153 ADVANCED FLORAL DESIGN
Advanced floral designing and arranging of fresh flowers, dried material and silk flowers. Wedding arrangements, funeral pieces, holiday, commercial accounts and arrangements for special occasions will be emphasized. Retail selling, merchandising and pricing of floral products in a retail shop will be taught. Advanced skill development will be encouraged. Lab Included. Additional $100 lab fee. Prerequisite: HRT 1153. (sp)

HRT 2163 PLANT PROPAGATION
Principles and practices used in the sexual and asexual propagation of horticultural plants including seeds, division, layering, cuttings, grafting, budding and tissue culture techniques. Lab Included. Prerequisite: HRT 1013. (sp)

HRT 2213 HORTICULTURE MARKETING
An in-depth study of marketing principles and how marketing applies to the horticulture industry. Includes location, facilities, sales methods and price determination. Services, merchandising, marketing and advertising techniques, as well as supervisory and personnel responsibilities are also offered. Lab Included. Prerequisites: HRT 1013. (f)

HRT 2231 LANDSCAPE CONSTRUCTION EQUIPMENT
Introduction to equipment selection, operations, maintenance, and safety procedures relating to small and large equipment used in landscape construction. Lab included.

HRT 2233 LANDSCAPE CONSTRUCTION MATERIALS & METHODS
Overview of materials used in landscape construction and the landscape construction applications appropriate for each material, typical procedures for different types of built landscape elements. Landscape elements studied include walkways, decks, walls, fences, steps, pergolas and arbors, basic water features, and landscape lighting. Course material includes basic occupational safety and particular concerns for each construction procedure. Lab included. (f)

HRT 2253 SPECIAL OCCASION FLORAL DESIGN
Basic principles of floral design as applied to special occasions design work. Emphasis is placed on preparation, pricing and design for weddings, funerals, parties, receptions and other special occasions. Lab Included. Additional $100 lab fee. Prerequisite: HRT 1153. (f)
HRT 2263 HORTICULTURAL PEST MANAGEMENT
Introduces and thoroughly covers the topic of pest management in all areas of horticulture technology. Lab Included. Prerequisite: HRT 1013. (F)

HRT 2313 DECIDUOUS LANDSCAPE PLANTS
Identification and classification of deciduous trees, shrubs, vines and groundcovers with some evergreen trees and shrubs. Includes the study of the plant materials cultural requirements and landscape uses. Prerequisite: HRT 1013 or consent of department head. (L SU)

HRT 2343 CONTROLLED ENVIRONMENTS HORTICULTURE - FALL
This is a study of the operation and management of greenhouses and related environments. Emphasis is on infrastructure, cultural systems, production, and marketing of commercial floricultural, vegetable, and herb crops as practiced in the fall such as fall bedding plants and poinsettia. Lab and field trips are included. Prerequisite: HRT 1013 or consent of department head. (FSU)

HRT 2413 EVERGREEN LANDSCAPE PLANTS
The identification and classification of evergreen trees, shrubs, vines and groundcovers with some deciduous trees and shrubs. Includes the study of their cultural requirements and landscape uses. Lab Included. Prerequisite: HRT 1013 or consent of department head. (S)

*HRT 2423 COMPUTER GRAPHICS FOR LANDSCAPE DESIGN
Introduction to computer programs utilized in the practice of landscape design. Principles of electronic drafting, utilizing Auto CAD and Photoshop. Students will master drawing set-up, basic drawing and modification commands, and file management in Auto-CAD. Introductory Photoshop exercises relate to landscape plan and illustration rendering. Applications to the landscape design industry are emphasized. Lab Included. Prerequisite: HRT 1103 or Department Permission.

*HRT 2443 CONTROLLED ENVIRONMENTS HORTICULTURE - SPRING
This is a study of the operation and management of greenhouses and related environments. Emphasis is on infrastructure, cultural systems, production and marketing of commercial floricultural, vegetable, and herb crops as practiced in the spring such as spring bedding plants and Easter lily. Lab and field trips are included. Lab Included. Prerequisite: HRT 1013 or consent of department head. (SP)

HRT 2463 HERBACEOUS ORNAMENTAL PLANTS
This plant identification course introduces ornamental annual and herbaceous flowering perennials for garden, landscape and patio spaces. The study includes flowering bulbs, roses, ornamental grasses and herbs. Culture, care and design issues are considered. Lab and field trips are included. Lab Included. Prerequisite: HRT 1013 or consent of department head. (SP-SU)

HRT 2463 INTERIOR PLANTS
This plant identification course introduces tropical foliage and flowering plants for interior spaces. Cultural requirements, practical maintenance and design issues are considered. Lab and field trips are included. Lab Included. Prerequisite: HRT 1013 or approval of department head. (F)

*HRT 2533 ADVANCED TURFGRASS MANAGEMENT
Emphasis will be placed on the appropriate grounds maintenance activities for commercial lawn care, sports facilities and golf courses. Advanced topics in turfgrass ecology, turf cultural requirements, pest control and equipment will be studied along with construction techniques of sports turf and day-to-day operations of various facilities. Lab Included. Prerequisites: HRT 1013 and HRT 2113. (SP-ODD YEARS)

HRT 2651-2656 HORTICULTURE INTERNSHIP
One to four hours credit. Special project will be assigned by the advisor with the approval of the department head. A comprehensive written report of the work accomplished must be prepared and approved. Before credit is received, an examination may also be required. Prerequisite: completion of three semesters work in a technical college curriculum or 36 credit hours.

HRT 2843 IRRIGATION INSTALLATION AND TROUBLESHOOTING
This hands-on course introduces basic irrigation layout, installation, maintenance and troubleshooting techniques. Topics include: gluing and repairing PVC and polyethylene pipe, installing and adjusting heads, electric valve operation, troubleshooting and repairing electric valves and field controllers. Additional topics include pump and well operations, cross connection, winterizing, drainage and micro irrigation system installations. Lab Included. (SP)

HRT 2933 HORTICULTURE CAPSTONE
This capstone course of the horticulture programs. The student will demonstrate the collected knowledge, skills and techniques acquired in the program courses by working through an approved project in a team setting. Students will demonstrate problem solving, critical thinking, research techniques, technical writing, budgeting/cost estimating and teamwork in an interdisciplinary setting. Credibility, professionalism and group dynamics will be emphasized to help round out the student’s education. The final project must be presented as a group with each individual supplying the necessary resume, portfolio and video introduction. Prerequisite: Sophomore in good standing (at least 2.5 GPA) and department head approval.

HUMANITIES

HUMN 1803 INTRODUCTION TO ART (H)
Introduction to the analysis and interpretation of the visual arts. Prerequisite: ENGL 1113.

HUMN 2051-2056 SEMINAR IN HUMANITIES (H)
A study of variable topics in Humanities. May be repeated with different topics. Prerequisite: ENGL 1113.

HUMN 2103 MASTERWORKS OF WESTERN CULTURE/ANCIENT AND MEDIEVAL (H)
Key ideas and values of ancient and medieval western culture, as discovered through an integrated and thematic study of literature and the fine arts, seen in their historical and philosophical context. Prerequisite: ENGL 1113.

HUMN 2203 MASTERWORKS OF WESTERN CULTURE/MODERN (H)
Key ideas and values of modern western cultures, as discovered through an integrated and thematic study of literature and the fine arts, seen in their historical and philosophical contexts. Prerequisite: ENGL 1113.

HUMN 2733 WORLD RELIGIONS (H)
Major world religions, such as Hinduism, Buddhism, Judaism, Christianity, and Islam with a view to understanding the general nature of religion and its various dimensions. Prerequisites: ENGL 1113.

INFORMATION TECHNOLOGY

ITD 1103 INFORMATION TECHNOLOGY FUNDAMENTALS
The course provides students with the foundation-level knowledge and skills necessary for information technology technical support positions. Students will be able to identify and explain Personal Computer (PC) components, setup a basic PC workstation, conduct basic software installation, identify compatibility issues and recognize/prevent basic security risks. Further, this course covers the areas of Green IT and preventative maintenance of computers. The course prepares the student for an Information Technology industry recognized certification exam. Prerequisites: [R]

*ITD 1113 MICROSOFT WINDOWS EXPERT USER
This course provides the student with the knowledge and skills necessary to provide technical support with the current Microsoft desktop operating system. Students will develop an advanced proficiency in using the Windows desktop operating system, as such; students will need prior knowledge and skills with Windows desktop operating systems. The student will understand the operating system configurations, installing and upgrading client systems, managing applications, managing files and folders, managing devices,
and operating system maintenance. In addition, other course topics include configuring network connectivity, access to resources, mobile computing, monitoring and maintaining systems that run Windows, and backup and recovery options. This course prepares he student for an Information Technology industry recognized exam. Prerequisites: [R].

*ITD 1323 INTERNET FUNDAMENTALS
Introduction to the worldwide computer network. Course uses a hands-on approach to teach students the history and capabilities of the Internet. Students learn the resources available via the World Wide Web and searching capabilities. Same as GDD 1313 can be cross listed. Prerequisites: [R] placement test or CIS 1003.

*ITD 1503 A+ HARDWARE
Students will be introduced to hardware concepts through hands-on experience with the fundamentals of current microcomputer technologies including installation, configuration, upgrades, diagnosis and troubleshooting, system optimization and repair. Additional topics will include preventive maintenance as well as safety.

*ITD 1513 A+ OPERATING SYSTEMS
A support-oriented course providing students with information and hands-on classroom experience in dealing with operating system issues inherent to PC (personal computer) hardware and software installation, upgrade, configuration, maintenance and troubleshooting in a user-based computing environment. Course topics will include the boot process, configuring and customizing the computer, managing hardware, displaying a user interface, interpreting commands and requests, providing services to software applications, allocating and managing memory, managing files, optimizing system performance and providing troubleshooting tools. Prerequisite: ITD 1503.

ITD 1523 SUPPORTING AND TROUBLESHOOTING PERSONAL COMPUTERS*
The course presents the fundamentals of personal computer hardware and software installation, maintenance, networking and troubleshooting. It assists students in preparing for the CompTIA A+ industry certification. This course uses a combination of lecture and hands-on lab exercises. Prerequisite: ITD 1113.

ITD 1533 LAN FUNDAMENTALS
The course provides the student with the foundation-level knowledge of and skills with computer networking. In this course, the student will examine network concepts, standards, technology, media, protocols and topologies. Topics include connectivity, network devices, basic network security, local and wide area networks, network design, transmission media, cabling, wireless access, IP addressing, and open systems interface (OSI) model. This course prepares the student for an Information Technology industry recognized certification exam. Prerequisite: [R].

ITD 1543: INTRODUCTION TO COMPUTER FORENSICS
This course introduces students to the fundamentals of the computer forensics field and technology. Students will learn about the computer forensics profession, legal issues and procedures of computer investigations and digital evidence management, industry-standard computer forensics tools, file systems, data recovery and collection, and sample case evaluations. Prerequisite: PLSC 1103

ITD 2143 DIGITAL INVESTIGATIONS AND REPORTING
This course covers the digital forensics methods used to preserve, collect, validate, identify, analyze, interpret, and present digital evidence for a criminal case or civil litigation. Each step in digital forensics and eDiscovery process emphasizes the legal requirements that digital evidence have integrity, authenticity, reproducibility, non-interference, and minimization. Prerequisites: ITD 1543 & PLSC 1213.

*ITD 2153 ADVANCED TELECOMMUNICATION FUNDAMENTALS
An in-depth study of the technological resources available for technical communications. Covers telecommunication regulations, ethics and economics. Prerequisite: ITD 2053. Spring only.

ITD 2163: COMPUTER & TECHNOLOGY LAWS
This course introduces students to the Oklahoma state and US Federal laws and regulations related to computers and technology. The course will address elements of the civil and criminal codes related to computer and network technology. Prerequisite: ITD 1103.

ITD 2173: COMPUTER FORENSICS & INCIDENT RESPONSE INVESTIGATIONS*
This course provides students the opportunities to apply the fundamentals of the computer forensics to the processing and analysis of real or hypothetical cases. Students will have substantial hands-on experience in problem-solving and in using computer forensic knowledge and tools to identify, recover, collect, process, analyze, document and present digital evidence in sample cases of computer crimes or incidents. The hands-on experience includes work on file and data recovery, password cracking and examination and analysis of email and network intrusions. Prerequisite: ITD 2143 and ITD 1543.

ITD 2193 TECHNOLOGY SUPPORT COMMUNICATION
Includes but not limited to effective presentations (oral and written), as well as summarizing to co-workers reasoning and communication. Role-playing with current IT issues and using industry professionals to play out the scenario. Focus on using soft-skills for effective communication and delivery of topic. Prerequisite: [R] & [W]

*ITD 2213 NETWORKING I
This course prepares the student for positions as desktop support technicians who manage and maintain desktop operating systems as part of their technical responsibility. The course provides the student with the knowledge and skills necessary to manage and maintain the desktop operating system on a network. The student will be able to identify cause of and resolve desktop application issues, networking issues, manage and maintain systems running windows client, support mobile users, and identify cause of and resolve security issues. After completing the course, the student should be able to resolve operating systems issues by telephone, email, connecting to an end user’s system remotely, or by visiting an end user’s desktop. The student should have prior experience using microsoft office applications and other productivity applications used in a corporate environment. This course prepares the student for an Information Technology industry certification exam. Prerequisite: ITD 1113.

*ITD 2241-2244 COOPERATIVE PRACTICE
One to four credits. Under supervision of the college and the employer, students combine classroom learning with career-related work experience. Prerequisite: consent of department head.

*ITD 2253 PLANNING/ACQUISITION/MANAGEMENT OF TELECOMMUNICATION RESOURCES
Study of the issues and problems telecommunications professionals face in the acquisition and management of corporate telecommunications equipment, software and services. Topics include assessment of corporate telecommunications needs to optimize facilities, increasing productivity and financial analysis. Prerequisite: ITD 2053. Spring only.

*ITD 2313 NETWORKING II
This course prepares students for positions as a server support technician who manages and maintains network servers as part of their technical responsibility. The course provides the student with the knowledge and skills necessary to build, maintain, troubleshoot and support server hardware and software technologies. The student will be able to identify environmental issues; understand and comply with disaster recovery and physical/software security procedures; be familiar with industry terminology and concepts; understand server roles/specialization and interaction within the overall computing environment. Students will learn to install, deploy, configure, and update Network Operating Systems (Windows and Linux). This course prepares the student for an Information Technology industry recognized certification exam. Prerequisites: ITD 2213 and ITD 1523.

*ITD 2333 NETWORKING III
This course prepares the student with the foundation knowledge in advanced routing and switching technologies and network management. Students gain knowledge with installing, monitoring and troubleshooting network infrastructure using
*ITD 2433 LINUX
This course is a study of the Linux operating system and applications for system, file and disk management. It includes an introduction to systems administration and development of programs for the Linux operating system. Fall only.

*ITD 2623 ADVANCED LAN FUNDAMENTALS
The course provides the student with the knowledge and skills to implement a defined network architecture with basic network security. The student will be able to configure, maintain, and troubleshoot network devices using appropriate network tools and understand the features and purposes of network technologies. The students will learn to make basic solution recommendations, analyze network traffic, and be familiar with common protocols and media types. Course prepares the student to take the CompTIA Network+ certification exam. Prerequisite: ITD 1533

*ITD 2723 NETWORK SECURITY
The course prepares the student with foundation-level network security skills and knowledge used by IT security professionals. The course provides the student with the knowledge and skills necessary to identify risk and participate in risk mitigation activities, provide infrastructure, application, operational and information security, apply security controls to maintain confidentiality, integrity and availability, identify appropriate technologies and products, and operate with an awareness of applicable policies, laws and regulations. The course covers network security; compliance and operational security; threats and vulnerabilities; application, data and host security; access control and identity management; and, Cryptography. This course prepares the student for an Information Technology industry recognized certification exam. Prerequisites: ITD 2313.

ITD 2801 COMPUTER FORENSICS/EDISCOVERY CERTIFICATION PRACTICUM
This course gives the student the opportunity to demonstrate the knowledge and skills learned from the computer forensics and ediscovery certificate course work. The practicum will include a written exam and a practical exam. The student will demonstrate comprehensive knowledge of high level proficiency in order to complete the course. Should be taken the last semester. [R] [W] & Department Approval

*ITD 2823 MICROSOFT INTERNET SECURITY AND ACCELERATION SERVER
This course provides students with the knowledge and skills to deploy and manage Microsoft® Internet Security and Acceleration (ISA) Server as part of a larger security infrastructure which includes network and perimeter security measures, Internet firewalls, application layer filters, and screened networks. Students will also learn to implement caching servers and additional mechanisms to protect public-facing Web servers. The course introduces security concepts unique to ISA Server and provides best practices for their implementation. This course assists students in preparing for the Microsoft exam 70-350: Implementing Microsoft Internet Security and Acceleration Server 2004. Instructional methods include lectures, discussions, scenarios, demonstrations, chapter review questions, textbook exercises, and classroom labs. Spring only.

ITD 2933 INFORMATION TECHNOLOGY CAPSTONE
As a capstone course of the Information Technology program, the student will demonstrate the collected knowledge, skills, and techniques acquired in the program of study through a variety of assessment methods. Students will demonstrate problem solving, critical thinking, research techniques, and technical writing. Information Technology ethics, professional responsibility, and team dynamics will be emphasized to help round out the student’s education. Prerequisite: Department Head approval.

ICM 103 INTERMEDIATE ALGEBRA
Review of fundamental operations of algebra, rational expressions, exponents and radicals, complex numbers, linear equations and inequalities, quadratic equations, graphing and systems of equations. Satisfactory placement scores are required or students must have completed ICM 0123 or ICM 0135 with a grade of “C” or better. Prerequisite: ICM 0123 or ICM 0135.

ICM 0235 INTRODUCTORY/INTERMEDIATE ALGEBRA
Review of fundamental mathematics and introduction to algebra to include signed numbers, exponents, algebraic expressions and fractions, factoring, rational expressions, exponents and radicals, complex numbers, linear equations and inequalities, systems of linear equations, quadratic equations, graphing and systems of equations. Introductory exponential logarithmic functions. Satisfactory placement scores are required or students must have completed ICM 0103 with a grade of “C” or better. Prerequisite: ICM 0103

ICSR 0033 READING FOR COLLEGE PREP I
Improvement of vocabulary and reading comprehension. May be used for skills remediation.

ICSR 0133 READING FOR COLLEGE PREP II
Development of analytical reading and reasoning skills. May be used for skills remediation. Satisfactory placement scores are required or students must have completed ICM 0033 with a grade of “C” or better. Prerequisite: ICM 0033

ICSW 0033 WRITING FOR COLLEGE PREP
Intensive instruction in basic writing skills, parts of speech, grammar, punctuation, sentences and paragraphs. May be used for skills remediation.

ICSW 0123 BASIC COMPOSITION
Intensive instruction of grammar and writing skills, paragraph structure and composition, and essay structure and composition. May be used for skills remediation. Satisfactory placement scores are required or students must have completed ICM 0033 with a grade of “C” or better. Prerequisite: ICM 0033

INTERPRETER TRAINING

ITP 1212 NONVERBAL COMMUNICATION
A study of the skills required to express communication without the spoken word through the use of facial expression, body language, gestures and pantomime. Prerequisites: [R] [W]

ITP 1321-1324 TECHNICAL PROBLEMS-ITP
One to four credits. Technical problems in interpreter training that are of particular interest to interpreters.

ITP 1333 INTRO TO THE DEAF COMMUNITY
A study of the status of deaf persons from the past to the present day. Various communication methods and the education process for deaf students will be discussed. Prerequisites: [R] [W]
ITP 1352 FINGERSPELLING I
A course focused on developing the skill of reading and executing fingerspelling with emphasis on fluency and accuracy. Prerequisite: ITP 1364.

ITP 1364 AMERICAN SIGN LANGUAGE I
An introductory course in American Sign Language (ASL) which includes the development of receptive and expressive skills in authentic situations and an introduction to Deaf culture. Topics revolve around sharing information about our environment and us. Grammar is introduced in context, with an emphasis on developing question and answering skills. Activities involving interaction allow for rehearsing conversational strategies and targeted vocabulary. Prerequisite: ITP 1212 or concurrent enrollment.

ITP 1374 AMERICAN SIGN LANGUAGE II
Continuation of American Sign Language I (ASL) I. This course further develops receptive and expressive skills in American Sign Language in authentic situations and expands the study of Deaf culture. It covers topics like making requests and talking about routines while focusing on grammatically correct production and appropriate non-manual behaviors. Prerequisites: ITP 1364 and concurrent enrollment in ITP 1352.

ITP 1493 INTERPRETING SPECIAL AREAS
Introduces the following topics in interpreting: (1) working with deaf and hard-of-hearing persons who communicate through speech and speech reading, (2) working with person having minimal language skills, (3) working with person who are deaf and blind, and (4) multicultural aspects of interpreting. Prerequisites: ITP 1374.

ITP 2051-2056 ADVANCED TECHNICAL PROBLEMS
One to six credits, six maximum. A study of applied problems that are of special interest to the interpreter. Prerequisite: consent of department head.

ITP 2113 SIGN-TO-ENGLISH INTERPRETING I
Designed to develop skills in consecutive interpreting from sign into spoken English. Skills targeted include cultural mediation, transitions, closure, fluency, clarity and message conveyed for content and affect. Prerequisite: ITP 2413 and ITP 2313.

ITP 2263 EDUCATIONAL INTERPRETING
Designed to give the students experience in interpreting in the educational setting. Emphasis will be given to Signing Exact English (SEE) and the vocabularies specific to different educational areas such as history, math, computer science, English and science. Prerequisite: ITP 2513, ITP 2623.

ITP 2273 TRANSLITERATING
Designed to provide students with skills development in transliterating using conceptually accurate signed English. Students will work on a variety of stimulus materials to expand vocabulary. Prerequisite: ITP 2263.

ITP 2313 FUNDAMENTALS OF INTERPRETING
An introduction to the principles, practices and processes of interpreting and transliterating. Emphasis on the Code of Professional Conduct and ethical decision-making. Prerequisite: ITP 1374.

ITP 2352 FINGERSPELLING II
A continuation of ITP 1352. Expressive and receptive fingerspelling practice designed to increase competency in the areas of word recognition and word production. Specified core of number usage, finger spelled loan signs and intonation in context. Prerequisite: ITP 1352.

ITP 2373 TECHNICAL INTERPRETING I
This course is designed to equip the student with vocabulary and processes needed to interpret in religious, medical and performing arts settings. Prerequisite: ITP 2413 and ITP 2313.

ITP 2383 TECHNICAL INTERPRETING II
This course is designed to equip the student with vocabulary and processes needed to interpret in mental health and legal areas. Prerequisite: ITP 2373.

ITP 2413 AMERICAN SIGN LANGUAGE III
An intermediate course with an emphasis on expressive and receptive conversational sign language skills incorporating signed expression. Prerequisite: ITP 1374.

ITP 2443 SIGN-TO-ENGLISH INTERPRETING II
A continuation of Sign-to-Voice Interpreting I. Targeted skills will also include interpreting simultaneously from sign to spoken English and recognition of a variety of signing modes. Prerequisites: ITP 2113 and ITP 2513.

ITP 2501 SKILLS MAINTENANCE LAB
Skills maintenance lab.

ITP 2513 AMERICAN SIGN LANGUAGE IV
Extensive concentration on American Sign Language communication skills, combined with linguistic comparisons of English and ASL. Prerequisite: ITP 2413.

ITP 2623 INTERPRETING ENGLISH TO ASL I
Designed to develop skills in interpreting consecutively from English into American Sign Language. Skills targeted include listening, closure, fluency, sign utilization, clarity and message conveyed for content and affect. Prerequisites: ITP 2313 and ITP 2413 and ENGL 1213.

ITP 2633 INTERPRETING ENGLISH TO ASL II
A continuation of Interpreting I. Skills targeted also include interpreting simultaneously. Students will prepare for the state Quality Assurance Screening Test (QAST). Prerequisites: ITP 2623 and ITP 2113.

ITP 2636 INTERPRETING PRACTICUM
A practicum course designed to give students supervised experiences in interpreting in limited professional settings. Students will prepare a portfolio of their best work in interpreting and transliterating in both voice-to-sign and sign-to-voice. Students will take the QAST performance evaluation at the end of the semester. Prerequisite: ITP 2633.

MEMBERSHIP

MGMT 1313 STRESS MANAGEMENT
Management of activities, rather than doing activities, stresses relationships between goals and activities. Discusses the balance between personal and professional life.

MGMT 2103 PRINCIPLES OF MANAGEMENT
An introductory course presenting the basic concepts and practices of management, both private and public. Topics include historical development of management; basic definitions and philosophy; fundamentals managerial functions, including planning, organizing, staffing, directing and controlling; current trends in management; possible future developments in organization and administration. Prerequisite: [R]

MGMT 2123 LABOR RELATIONS MANAGEMENT
A study of problems affecting management and labor, principles and techniques of collective bargaining, types of union agreements, federal and state labor laws, administrative regulations and requirements and current trends in management-labor relations.

MGMT 2143 LEADERSHIP
A study of organizations and the effective use of power and authority to motivate, lead and influence people. Course discusses the historical view of leadership, situational leadership, influence of organizational climate on leadership styles and current and future trends affecting leadership. Prerequisite: MGMT 2103.

MGMT 2163 SUPPLY CHAIN MANAGEMENT
Supply chain management is one of the hottest topics in today’s business. This course’s focus is on understanding the relevant history, principles, and major elements of supply chain management. Specific topics include sourcing and purchasing management; managing supplier relationships; demand forecasting, inventory management, quality management, domestic and international transportation, customer relationship management, enterprise resource planning systems, facility location decision-making, performance management, and future challenges facing supply chain managers.
MGMT 2213 HUMAN RESOURCES MANAGEMENT
Focuses on developing students’ understanding of human resource issues and the practical application of methods for solving these issues. Topics covered include job analysis, recruitment, interviewing, selection, performance appraisal, training, compensation and equal employment opportunity. Issues are reviewed within the context of the historical and current social environment, labor market, legal and global economic conditions influencing practice. Prerequisite: [R].

MGMT 2223 SUPERVISION
Effective supervision is considered the key link to productivity. Building upon the foundations learned in MGMT 2103, this course examines the skills needed for effectively managing work and leading people. Topics include: planning, organizing, directing and controlling, communications, skills, managing change, motivation, leadership, building relationships, discipline, grievances and complaints, selection and retention. Prerequisite: MGMT 2103

MGMT 2293 INTRODUCTION TO NON-PROFIT ORGANIZATION
An overview of non-profit organizations and the importance of business function in their effectiveness and sustainability. Examines historical background, development, role, auspices, organization and purposes of nonprofit agencies. Special emphasis is placed on structure, program organizational management, planning and stewardship, fundraising, community building, volunteer services and problems which confront these organizations.

MGMT 2493 NON-PROFIT MANAGEMENT
Immersion of the student in nonprofit administration. The theoretical and the practical side of nonprofit management from establishment of a nonprofit organization through the operations of the programs. The primary goal for the course is to increase the knowledge and expertise of students in order for them to feel comfortable in the operation of a nonprofit organization.

MGMT 2503 FUNDRAISING AND DEVELOPMENT
Theory and practice of philanthropy, resource acquisition methods through ethical fundraising and earned income approaches for nonprofit organizations. Examines methods and techniques in fundraising for nonprofit agencies. Explores relationships with umbrella organizations, government funding, grants, budget control and accountability.

MGMT 2913 ORGANIZATIONAL BEHAVIOR
Covers the structure of organizations and dynamics of behavior within organizations. Topics include job design, perception, communication, decision-making, motivation, groups, leadership and organizational change and effectiveness. Prerequisite: [R].

MGMT 2923 ORGANIZATIONAL BEHAVIOR
Focuses on the relationship between business and technology, business strategies and processes that drive technology choices, the role of MIS in supporting business growth, sustainable technologies, etc. Prerequisites: [R] [W]

MIS 1733 BUSINESS FOUNDATIONS FOR MIS
Business initiatives drive technology choices. This course addresses business needs and the technology that supports those needs. Topics include: the relationship between business and technology, business strategies and processes that drive technology choices, the role of MIS in supporting business growth, sustainable technologies, etc. Prerequisites: [R] [W]

MIS 2233 INTRO TO MANAGEMENT INFORMATION SYSTEMS (MIS)
This course provides an introduction to Management Information Systems and examines the role of information systems in supporting a wide range of organizational functions. Topics include: Information systems in the digital age, information technology infrastructure, system applications and building and managing information systems. Prerequisites: [R] [W]

MIS 2333 INFORMATION SYSTEMS MANAGEMENT
This course explores how technology is changing the face of business. It addresses information systems support of organization capabilities. Topics include: gaining the competitive advantage with IT, data warehouses, analytics/decision support and artificial intelligence, electronic commerce, emerging trends and technologies, etc. Prerequisites: MIS 2233 or department approval

MIS 2743 TECHNOLOGY MANAGEMENT CAPSTONE
This course examines current issues and approaches to the management of technology. Using projects, case studies, assigned readings and discussions, students will examine the complexity of issues involved in the management of technology. An underlying theme of this course is that the successful management of technology rests on understanding a number of issues, including the nature of competition, the interaction of new technologies with existing technologies, the evolution of markets and the processes through which organizations generate and absorb technological innovations. Prerequisites: MIS 2233 or department approval

MARKETING

MKT 2273 PRINCIPLES OF MARKETING
Focuses on the relationship between the organization and its customers and the other members of the channel of distribution. Introduces students to the marketing function of an organization, the environmental factors influencing marketing decisions, the discovery of market opportunities, the development of marketing strategy and the development of marketing programs.

MKT 2283 CONSUMER BEHAVIOR
The buying-using process is examined. The external environment, individual determinants and decision processes are studied in the context of forming market strategy and tactics. Topics include information processing, social and economics influences, attitude formation and change, image creation and positioning, behavioral research and low-high involvement behavior. Prerequisite: MKT 2273

MKT 2343 PRINCIPLES OF ADVERTISING
A study of advertising principles and practices. Advertising management, media buying, agency operations, advertising and marketing research, and an analytical basis for advertising decision-making and control. Builds on a rigorous base of consumer psychology and then focuses on public relations and communication in relation to the overall promotional mix. Prerequisite: MKT 2273.

MKT 2353 SERVICES MARKETING
Focuses on the distinctive characteristics of services and how they affect both customer behavior and marketing strategy. Topics include: the vital role that services play in the economy and the strategies and techniques needed to develop strong customer relationships through quality services. Prerequisite: MKT 2273

MKT 2363 PERSONAL SELLING AND SALES MANAGEMENT
The study of the role of personal selling in the marketing mix, application of the step-by-step selling process, and an introduction to topics and issues related to the management of a sales force. Prerequisite: MKT 2273

MKT 2373 RETAIL MANAGEMENT
A study of the field of retailing, the role of retailing in the distribution process and the contemporary challenges and opportunities in the field. Focuses on the key issues in developing and implementing a retail strategy with an emphasis on financial considerations and implementation through merchandising and store management. Prerequisite: MKT 2273

MKT 2643 PRINCIPLES OF PUBLIC RELATIONS
A study of various methods and procedures for use by individuals, groups or organizations to improve their image, communications and relationships with their public. Builds on a rigorous base of consumer psychology and then focuses on public relations and communication in relation to the overall promotional mix. Prerequisite: MKT 2273.

MKT 2750-53 SELECTED TOPICS IN MARKETING
The study and/or analysis of a selected topic in Marketing. May be repeated with a different topic. Prerequisite: MKT 2273
MATH 1413 GENERAL COLLEGE MATHEMATICS (A)
Topics from set theory, probability, statistics, algebra, number systems and math applications. Not preparatory for subsequent math courses. Satisfactory placement scores are required or students must have completed ICSM 0213 with a grade of "C" or better. Prerequisite: [R] ICSM 0213 or ICSM 0235.

MATH 1513 COLLEGE ALGEBRA (A)
Quadratic equations, functions and graphs, inequalities, systems of equations, exponential and logarithmic function, theory of equations, sequences and the binomial formula. Satisfactory placement scores are required or students must have completed ICM 0213 with a grade of "C" or better. Prerequisite: [R] ICM 0213 or ICM 0235.

MATH 1613 TRIGONOMETRY (A)
Trigonometric functions, solution of right and oblique triangles and applications to engineering. Prerequisite: MATH 1513 or concurrent enrollment.

MATH 1715 PRECALCULUS
Preparation for calculus. An integrated treatment of topics from college algebra and trigonometry. Combined credit for MATH 1513 & MATH 1613. No credit for those with prior credit in any course for which MATH 1613 is a prerequisite. Prerequisite: MATH 0213 or ICM 0213 or equivalent.

MATH 2103 ELEMENTARY CALCULUS (A)
Introduction to differential and integral calculus. For students of business and social sciences. Prerequisite: MATH 1513.

MATH 2123 CALCULUS FOR TECHNOLOGY PROGRAMS I (A)
First part of a terminal sequence in calculus for students pursuing degrees that emphasize technology. Functions and graphs, differentiation and integration with applications. Prerequisites: MATH 1513 and MATH 1613 or MATH 1715.

MATH 2123 CALCULUS FOR TECHNOLOGY PROGRAMS II (A)
The second part of a terminal sequence in calculus for students pursuing degrees that emphasize technology. Calculus of trigonometric, exponential and logarithmic functions with application to physical problems. Prerequisite: MATH 2123.

MATH 2145 CALCULUS I (A)
Introduction to derivatives, integrals and their applications, including introductory analytic geometry. Prerequisites: MATH 1513 and MATH 1613 or MATH 1715.

MATH 2155 CALCULUS II (A)
A continuation of MATH 2145, including multivariate calculus and series with applications. Prerequisite: MATH 2145.

MATH 2233 DIFFERENTIAL EQUATIONS (A)
Methods of solution of ordinary differential equations with applications. First order equations, linear equations of high order, series solutions, Laplace Transform theory. Prerequisite: MATH 2155.

METEOROLOGY

METR 1013 ELEMENTARY METEOROLOGY
Meteorology is the study of the earth’s atmosphere. The course will foster a basic understanding of the atmospheric environment by studying clouds, precipitation, winds, air masses and storms. Prerequisites: [R] [SCI] MATH0123 or SCI 0124.

MICROBIOLOGY

MCRO 2124 INTRODUCTION TO MICROBIOLOGY
Introductory study of general principles of microbiology. Lab: three hours per week. Prerequisite: four hours of biological or physiological science and CHEM 1214 or CHEM 1314.

MUNICIPAL FIRE PROTECTION

MFP 1103 INTRODUCTION TO PUBLIC FIRE PROTECTION
The student will acquire an understanding of the fundamentals behind the methods, efforts and equipment available to protect the public from fire.

MFP 1113 FIRE TACTICS I
A review and study of basic principles and methods utilizing fire department manpower equipment and apparatus. Emphasis will be on pre-planning, fire ground problems and related fire ground decisions as required of the company officer.

MFP 1123 FIRE TACTICS II
A study of principles and methods with the fireground tactics and strategy of the multi-company officer or chief officer. The course emphasizes multi-company alarm handling disasters and major fire incidents of mutual aid and large-scale command. Includes principles of command, control and techniques required at the scene of an emergency. Prerequisite: MFP 1113.

MFP 1143 EMS OPERATIONS
The student will summarize and interpret legal implications of EMS, the scope of practice, the role of the paramedic, and the responsibilities of the paramedic. Prerequisite: BIOL 1515 AND MFP 1249 OR Co-requisite: BIOL 1515 AND MFP 1249.

MFP 1243 PHARMACOLOGY
This course is designed to introduce students to the principles of pharmacology, medication administration, medication classes, and utilization of emergency medications. The student will demonstrate comprehensive understanding of pharmokinetics, pharmacodynamics, routes of administration, indications, contraindications, dosage and the ability to apply knowledge to determine the appropriate medication for the paramedic scope of practice. Prerequisite BIOL 1515 AND MFP 1249 OR Co-requisite: BIOL 1515 AND MFP 1249.

MFP 1253 HAZARDOUS MATERIALS FOR FIRST RESPONDERS
This course is designed to provide the first responders to hazardous materials incident with the basic information they need to make the first impact on the incident a professional and positive one.
MFP 1263 ECG
This course introduces the student to the basics of dysrhythmia interpretation, performance and interpretation of twelve lead EKG to allow theParamedic to treat the patient with acute myocardial infarction, as well as reviews the anatomy and physiology of the cardiovascular system. This course includes both lecture and exercise time in which the student may receive hands on rhythm interpretation practice via use of oscilloscope and paper rhythm strips. The course is designed for students with an interest or a need in improving or developing rhythm interpretation skills. Prerequisite: BIOL 1515 & MFP 1249 or Co-requisite: BIOL 1515 & MFP 1249.

MFP 1321-1324 TECHNICAL PROBLEMS - MUNICIPAL FIRE PROTECTION
One to four, maximum six credits. Technical problems in fire protection that are of particular interest to the fire service technician.

MFP 1348 PARAMEDIC CARE II
The student will accurately describe airway management/ventilation (including rapid sequence intubation), venous access, trauma systems, mechanism of injury, hemorrhage & shock, soft tissue trauma, burns, head & facial trauma, spinal trauma, thoracic trauma, abdominal trauma, musculoskeletal trauma, & environmental conditions. The student will integrate fluid therapy and advanced airway care into correct management of the patient with respiratory disorders; and/or trauma to soft tissues, the central nervous system, and the musculoskeletal system. Students will spending clinical time in the following areas: ambulance, emergency department, psychiatric unit, trauma ICU, operating room, and respiratory therapy. Prerequisite: MFP 1249.

MFP 2022 FIRE AND EMERGENCY SERVICES INSTRUCTOR
This course prepares potential fire and emergency services instructors for planning instruction, using a variety of Instructional methods, teaching diverse learners and evaluating course outcomes. The course also provides guidelines for addressing the critical issues of safety, the legal issues of training and opportunities for students to participate in application activities. On successful conclusion of the course, students are eligible to sit for the IFSAC Fire and Emergency Services Instructor. Prerequisite: MFP 2211.

MFP 2121 EMERGENCY VEHICLE OPERATION
This course introduces Fire and EMS personnel to Law and Liabilities, preventive maintenance, emergency response considerations, crash and injury prevention and safe driving techniques. Meet NFA 1002 & 1451.

MFP 2213 HAZMAT OPERATIONS
Upon successful completion of this course the student will be able to analyze a hazardous materials incident, plan an initial response, implement the response and evaluate the progress of the actions taken. Major topics covered in the course include fireﬁghter safety, regulations and standards, chemistry, recognition and identifications, DOT guidebook, site management, container behavior, defensive control measures, personal protective equipment and decontamination. Methods of instruction include lecture, discussion, classroom exercises, audio/visual material, practical exercises, quizzes, observations, written examination and a final certification examination conducted by FST (Fire Service Training).

MFP 2413 CONTEMPORARY ISSUES IN THE FIRE SERVICE
This course addresses a multitude of issues and trends in municipal fire protection by examining current literature and research. Students will be exposed to readings, guest speakers, and engaging discussion relative to the challenges and opportunities of the fire service. The course content will culminate into a final project that serves as a final degree requirement. Prerequisites: MFP 2727 or Completion of all Municipal Fire Protection work.

MFP 2549 PARAMEDIC CARE III
The student will accurately describe airway management/ventilation (including rapid sequence intubation), venous access, trauma systems, mechanism of injury, hemorrhage & shock, soft tissue trauma, burns, head & facial trauma, spinal trauma, thoracic trauma, abdominal trauma, musculoskeletal trauma, & environmental conditions. The student will integrate fluid therapy and advanced airway care into correct management of the patient with respiratory disorders; and/or trauma to soft tissues, the central nervous system, and the musculoskeletal system. Students will spending clinical time in the following areas: ambulance, emergency department, psychiatric unit, trauma ICU, operating room, and respiratory therapy. Prerequisite: MFP 2549.

MFP 2651-2656 TECHNICAL PROJECTS - MUNICIPAL FIRE PROTECTION
One to six, maximum six credits. A study of problems in fire protection that are of particular interest to the fire service technician.

MFP 2727 FIREFIGHTER I
Prepares students to the level of Firefighter I as defined by NFA (National Fire Protection Association) Standard for Fire Fighter Professional Qualifications 1001. Students completing the course with a grade of “C” or better will be eligible for certification by IFSAC (International Fire Service Accreditation Congress) and FST (Oklahoma Fire Service Training) as Firefighter I. Live fire training and certification testing will be conducted by Fire Service Training in Stillwater, Oklahoma. Students must complete and pass Haz Mat Ops MFP 2213 before certification of Firefighter I is granted by IFSAC and FST. Lab: three hours per week. Prerequisites: medical release from a physician and MFP 1123 and MFP 1148.

MFP 2803 MUNICIPAL FIRE PROTECTION PRACTICUM
This course provides an opportunity to apply the knowledge and skills of municipal fire protection through participating in cooperative relationships with Oklahoma Metro Fire Departments. Students participate in 12 or 24 hours shifts while completing a skills checklist with an evaluation by the assigned supervisor. Prerequisites: MFP 1148, MFP 2727.

NURSE SCIENCE
This is a selective admission program. See department for details.

NURS 1102- INTRO TO NURSING
A theoretical and practical course that serves as an introduction to nursing educational processes and the profession of nursing. Co-requisites: ENGL 1115, IISM 0123 PSYC 1113.

NURS 1118 FOUNDATION OF NURSING CONCEPTS
Students will be introduced to the core values of caring, diversity, ethics, excellence, holism, integrity and patient-centeredness; grounded in the nursing process. Focus is on the formation of knowledge, practice and ethical behavior necessary for safe, effective, holistic nursing practice within a technologically rich, dynamic health care environment. Active learning strategies of the course include individual and group learning experiences, simulation and clinical rotations. Prerequisites: CHEM 1214 or CHEM 1314, NSG 1113, ENGL 1113, PSYC 1113. Co-requisites: BIOL 2214, PSYC 2213, NURS 1121.
NURS 1121 INTRODUCTION TO PHARMACOLOGY
Students will be introduced to the major drug classification and dosage calculation. The focus is on knowledge, practice and ethical behaviors necessary for safe and effective administration of medications. Prerequisites: CHEM 1214 or CHEM 1314; NSCI 1113, ENGL 1113, PSYC 1113. Co-requisites: BIOL 2214, PSYC 2213 NURS 1118.

NURS 1148 NURSING CARE AND CONCEPTS ACROSS THE LIFESPAN
Students will incorporate the knowledge, practice and ethical behavior necessary for safe, effective, holistic nursing practice within a technologically rich, dynamic health care environment. The focus will be on acute care, community-based care, health promotion, and wellness, including care of populations ranging from maternal-child through geriatrics. Active learning strategies of the course will include individual and group learning experiences, simulation and clinical rotations. Prerequisites: BIOL 2214, PSYC 2213, NURS 1121, NURS 1118. Co-requisites: PSIO 2314, ENGL 1213.

NURS 1313 NURSING CONCEPTS FOR THE CAREER LADDER STUDENT
In this online course, students will incorporate the knowledge, practice, and ethical behavior necessary for safe, effective, holistic nursing practice within a technologically rich, dynamic health care environment; based on the core values of caring, diversity, ethics, excellence, holism, integrity and patient-centeredness. The focus will be on the philosophy of registered nursing, nursing process, assessment, communication, roles and functions of associate degree nurses. Active learning strategies of the course include individual and group learning experiences, simulation, and application of basic pharmacology knowledge. Prerequisites: NURS 1118 or equivalent, CHEM 1214 OR CHEM 1314; NSCI 1113, ENGL 1113, PSYC 1113; BIOL 2214; PSYC 2213 and previous formal acceptance into the Nursing Career Ladder Pathway to enter NURS 2218.

NURS 2050-53 SPECIAL TOPICS IN NURSING
Directed individual study in specific topics related to nursing. Prerequisites: Department Head approval.

NURS 2218 NURSING CONCEPTS AND CARE FOR VULNERABLE POPULATIONS
Students will utilize the knowledge, practice and ethical behavior necessary for safe, effective, holistic nursing practice within a technologically rich, dynamic health care environment. The focus will be on medical-surgical nursing and community-based care of vulnerable populations, including geriatric, pediatric, disabled populations, and for those with mental health disorders. Active learning strategies of the course include individual and group learning experiences, simulation and clinical rotations. Prerequisites: PSIO 2314, ENGL 1213; NURS 1148. Co-requisites: PSIO 2314, ENGL 1213; NURS 1118.

NURS 2258 COMPLEX NURSING CONCEPTS
Students will apply the knowledge, practice, and ethical behavior necessary for safe, effective, holistic nursing practice to the complexities of care within a technologically rich, dynamic health care environment. The focus is on high acuity care and management of multiple clients. Active learning strategies of the course include individual and group learning experiences, management of multiple clients. Active learning strategies of the course include individual and group learning experiences, simulation, and clinical rotations. Including immersion. Prerequisites: MCRO 2124, POLS 1113, NURS 2218. Co-requisites: HIST 1483 or HIST 1493, NURS 2342.

NURS 2342 TRANSITION TO PROFESSIONAL PRACTICE
Students will individualize a personal preparation plan for licensure and successful integration of the program outcomes of human flourishing, nursing judgment, professional identity, and spirit of inquiry. The course will also focus on the students' development of a practice framework including the political/policy process and legislation affecting delivery of care, including relevant healthcare mandates. Prerequisites: MCRO 2124; POLS 1113; NURS 2218. Co-requisites: HIST 1483 or HIST 1493; NURS 2258.

PHIL 1013 INTRODUCTION TO PHILOSOPHY (H)
Basic works by great thinkers, including Plato, Descartes and Hume. Prerequisites: [R] [W]

PHIL 1213 INTRODUCTION TO ETHICS (H)
Introductory ethics and social philosophy. Moral decision-making, the good life, social values, freedom and responsibility. Prerequisites: [R] [W]

PHIL 1313 CRITICAL THINKING (H)
Informal and formal reasoning, explanation, definition and fallacies. Emphasis on the critique, evaluation and development of arguments in everyday discourse. Practical applications. Prerequisites: [R] [W]

PHYS 1014 DESCRIPTIVE PHYSICS (N)
A survey course presenting the basic concepts and principles of physics with a minimum of mathematics. Motion, waves, temperature, electricity, magnetism, optics and atomic energy. No credit for students with PHYS 1114. Prerequisites: [R] [M] [SC1]

PHYS 1114 GENERAL PHYSICS I (L, N)
Physics for the non-engineering major or non-physics major. The course includes topics in mechanics, heat and sound with applications of each. Prerequisite: [R] [SC1] MATH 1513, MATH 1613 recommended OR MATH 1715. Lab: three hours per week.

PHYS 1204 GENERAL PHYSICAL SCIENCE (N)
Introduction to the fields of physics, chemistry, astronomy, geology and meteorology. Includes a short review on the metric system, scientific notation and scientific digits. Designed for the non-science major. Prerequisites: [R] [M] [SC1]

PHYS 1214 GENERAL PHYSICS II (L, N)
Continuation of PHYS 1114: electricity, magnetism, optics, quantum physics, atomic and nuclear structure. Lab: three hours per week. Prerequisites: PHYS 1114

PHYS 1514 INTRODUCTION TO LasERS
Principles and operation of a laser, its output characteristics and safe operating practices. Includes the electro-optics involved with lasers. Lab: three hours per week. Prerequisite: [SC1] MATH 1615.

PHYS 2114 PHYSICS II (ENGINEERING) (L, N)
Calculus-based introductory course for science, math and engineering majors. Mechanics, waves, heat and thermodynamics. Prerequisite: [SC1] MATH 2145.

PHYS 2114 PHYSICS II (ENGINEERING) (L, N)
Continuation of PHYS 2114: electricity, magnetism and optics. Prerequisite: PHYS 2114.

PHYS 2514 APPLICATIONS OF THE LASER
A study of applications for lasers, using the theoretical tools of physics. Lab: three hours per week. Prerequisite: PHYS 2114.

NUTRITION
NSCI 1113 BASIC HUMAN NUTRITION (N)
Study of the functions of the nutrients in human life processes and the nutrient relationship to health as a basis for food choices. Open to all students.

NSCI 1123 HEALTHY LIVING
This course will provide information on topics including current nutrition-related issues, exercise practices and mind/body activities to promote balanced health. These topics will be explored with information on vegetarian diets, the use of soy foods, the importance of herbs, organic grains. A variety of physical exercises will be studied including those that promote mental calmness and control such as yoga. Lifestyle practices that promote health, like journaling, will be studied and experimented with during the course. Prerequisites: [W] ICSR 0123.

PHILOSOPHY
PHYSICS
PHYSIOLOGICAL SCIENCES

PSIO 2311 HUMAN PHYSIOLOGY LABORATORY
Laboratory supplementing PSIO 2313. Structure and function of the systems of the human body. Enrollment requires credit or concurrent enrollment in BIOL 1515. This course will provide laboratory credit for students in an approved LPN or paramedic program. Concurrent: BIOL1515

PSIO 2314 HUMAN PHYSIOLOGY
Structure and function of the systems of the human body. Lab: three hours per week. Prerequisite: CHEM 1214 or CHEM 1314.

POLICE SCIENCE

PLSC 1103 INTRODUCTION TO FORENSIC SCIENCE
A survey of the ways in which the knowledge and technology of science are applied to the definition and enforcement of civil and criminal law.

PLSC 1123 INTRODUCTION TO LAW ENFORCEMENT AND POLICE PROCEDURES
Philosophy of law enforcement; the powers and limitations of the law enforcement officer as revealed in case studies.

PLSC 1133 ETHICS AND PROFESSIONAL BEHAVIOR IN LAW ENFORCEMENT
This is an introductory course of the science of moral philosophy. The student will explore their professional duties and the rational for them when facing ethical dilemmas in the criminal justice career field.

PLSC 1143 TRAFFIC
Police responsibility in traffic control, organization of traffic and patrol division, routine traffic duties and accident reports. Prerequisite: PLSC 1223 and concurrent enrollment in PLSC 2222.

PLSC 1211 FIREARMS
Care and use of police firearms, including legal provisions and restrictions. Open only to COP (Collegiate Officer Program) students with permission of department head.

PLSC 1213 RULES OF EVIDENCE
Tests of admissibility applied by the courts.

PLSC 1223 PENAL CODE AND RELATED CRIMINAL LAWS
The legal basis of law enforcement; the penal code, formation of law enforcement bodies, local ordinances and regulatory functions.

PLSC 1313 PATROL PROCEDURES
An examination of the types and methods of patrol activities. Studies include patrol techniques, hazard awareness, decision-making and tactical considerations. Prerequisite: PLSC 1223 & PLSC 1123

PLSC 1321-1324 TECHNICAL PROBLEMS - POLICE SCIENCE
One to four, maximum six credits. Technical problems that are of particular interest to police science majors.

PLSC 1413 POLICE-COMMUNITY RELATIONS
Relationships existing between the police and the community they serve. Emphasis will be placed on the officer’s role relative to the community, crime prevention, civil rights and the elements of effective community relations.

PLSC 1423 INTERVIEWING SKILLS
Presents a variety of techniques effective for interviewing and discusses the mental and physical factors as well as legal considerations that govern their application.

PLSC 1433 CRIME SCENE PHOTOGRAPHY
Includes basic and advanced photographic principles and theories as they relate to law enforcement with an emphasis on injury documentation, crime scene and accident documentation, fingerprint photography, copy stand photography, night item photography and painting with light. Lab: two hours per week. Prerequisite: PLSC 1103.

PLSC 2051-2056 TECHNOLOGICAL PROBLEMS
One to six, maximum six credits. A study of applied problems that are of particular interest to the technologist.

PLSC 2103 EMERGENCY FIRST AID
Department of Transportation (DOT) First Responder. Emphasis on emergency care for injuries and response procedures to emergency situations. Successful completion results in certification by the American Heart Association in Basic Life Support and by DOT as First Responders. Lab: two hours per week.

PLSC 2111 DEFENSIVE TACTICS
The study and practice of methods of defense employed by police officers. Lab: three hours per week. Open only to Collegiate Officer Program (COP) students with permission of department head.

PLSC 2113 POLICE ADMINISTRATION
Presentation of the social issues and daily problems facing police administration in a law enforcement organization. Study includes police leadership, organization, planning and research, inspectional service. Prerequisite: 28 or more completed semester hours.

PLSC 2143 INTRODUCTION TO CONSTITUTIONAL LAW
Constitutional law, its history and development; for the police science student. Prerequisite: POLS 1113.

PLSC 2211 EMERGENCY VEHICLE OPERATION
The legal aspect of emergency vehicle operation, desirable law enforcement driving behaviors and the proper handling of a vehicle in non-emergency, emergency and pursuit modes. Limited to Collegiate Officer Program (COP) students. Department permission required.

PLSC 2213 PRINCIPLES OF INVESTIGATION AND INTERVIEW
General principles of police investigation, evaluation, processing and assignment of complaints, methods of obtaining evidence and interviewing techniques. Prerequisite: PLSC 1223.

PLSC 2222 POLICE RECORDS AND REPORTS
Organization and operations of centralized records division; study of standard police forms and reports. Concurrent enrollment in PLSC 1143.

PLSC 2223 JUVENILE ASSISTANCE AND CONTROL
Organization, function and jurisdiction of the juvenile division; methods of handling, processing and detention of juveniles; case disposition and court procedures.

PLSC 2253 SURVEY IN POLICE SCIENCE
A survey course to complete the Collegiate Officers Program to include general certifications required by the Council on Law Enforcement Education and Training mandated by State Bill 920.

PLSC 2413 TECHNICAL INVESTIGATION I
The technical investigator’s function and duties in criminal investigation. Areas included are latent fingerprints, casting, ballistics, crime scene photography, and collection and preservation of evidence. Lab: three hours per week. Prerequisite: PLSC 2213.

PLSC 2423 BLOODSTAIN INTERPRETATION
Covers the techniques of identification of various stains and the methods used in determining whether or not the stain is blood. Topics include the significance of bloodstain evidence and its role in criminal investigation; detection and identification of stains and patterns; flight characteristics and stain pattern of human blood, blood detection and collection techniques; and the preservation of bloodstain evidence. Lab: two hours per week. Prerequisites: PLSC 2413 and CHEM 1104 and BIOL 1303 and BIOL 1311, or permission of department head.

PLSC 2434 FINGERPRINT IDENTIFICATION
Advanced techniques of fingerprint development with an emphasis on fingerprint comparison and identification. Lab: two hours per week. Prerequisite: CHEM 1104 or permission of department head.

PLSC 2443 CRIME SCENE RECONSTRUCTION
Provides an overview of reconstruction techniques, means of evaluating and interpretation of evidence from crime scenes, causation factors and the validity of physical evidence. Lab: two hours per week. Prerequisite: PLSC 2413.
PLSC 2513 CRISIS INTERVENTION
The police officer’s role in a crisis situation. Areas examined include domestic disturbances, death notification and conflict resolution. Prerequisite: PSYC 1113.

PLSC 2523 FORENSIC ANTHROPOLOGY AND ARCHEOLOGY
Provides the students with an introduction to the application of anthropological and archaeological techniques in law enforcement.

PLSC 2533 COURTROOM TESTIMONY AND PRESENTATION
Provides the student with a step-by-step process of investigating crime(s) and methodically prepare the case for submission in a court of law.

PLSC 2543 OCCUPATIONAL PROFICIENCY
This course is designed to evaluate the graduate’s proficiency in their major field of study. Areas to be assessed include communication skills, job interviewing techniques and professional competencies. Prerequisite: student must be within one (1) semester of graduation.

PLSC 2651-2654 TECHNOLOGICAL PROBLEMS
One to four, maximum four credits. Special project will be assigned by the advisor with the approval of the department head. A comprehensive written report of the work accomplished must be prepared and approved. Before credit is received, an examination may also be required. Prerequisite: completion of three semesters work in a technical college curriculum or 36 credit hours.

POWERS SCIENCE
PLSC 1113 AMERICAN GOVERNMENT (S)
General introduction to the Federal Governmental system. This course will emphasize basic principles of government such as the function of each branch of government. Topics of study shall include but not be limited to constitutional principles, federalism, civil liberties, civil rights, political participation, public opinion, interest groups, political parties, elections, media, congress, presidency, bureaucracy, judiciary, economic policy, domestic policy, and the general principles of state/local government. Prerequisites: [R] [W]

PLSC 1321-26 POLITICAL SCIENCE – SPECIAL TOPICS
One to six credits, six maximum. A study of applied problems that are special interest.

PLSC 2053 STATE AND LOCAL GOVERNMENT
Organization, processes and functions of American state and local governments, their relationship to each other and to the national government. Prerequisite or co-requisite: PLSC 1113.

PLSC 2113 COMPARATIVE POLITICS
A comparative study of the political processes and institutions of selected contemporary societies. Includes an introduction to concepts and methods of comparative politics. Prerequisite: PLSC 1113.

PLSC 2523 ETHICS IN BEHAVIORAL SCIENCES
Introduction to key topics in professional ethics and issues. Emphasis on ethical decision-making as an ongoing process and involving such topics as diversity issues, confidentiality, therapist–counselor confidence level, and competence. This course will also examine client rights, unethical behavior and malpractice issues. The course content is designed for psychology majors, but is also well-suited for students majoring in nursing, behavioral sciences and other health provider fields. (Will be crosslisted with PSYC 2523 and SOC 2523)

PLSC 3223 PROBLEMS IN PUBLIC SAFETY
Research and investigation on selected problems in the field of public policy. Prerequisite: PLSC 1113 or department permission.

POWER TRANSMISSION AND DISTRIBUTION TECHNOLOGY
PTDT 1102 ELEMENTS OF ELECTRICITY AND ELECTRONICS
An introduction to the elementary principles of basic electric units, Ohm’s Law circuit solutions of series and parallel network, magnetism, inductance and capacitance. Same as EET 1102.

PTDT 1103 PLAN READING FOR PTDT
This course will cover topics associated with construction drawing for distribution, transmission and substation projects. Topics will include organization and relationship of drawings, specification symbols, dimensions, scales and job notes.

PTDT 1104 INTRODUCTION TO THE UTILITY INDUSTRY/CLIMBING
This course will introduce the student to the career paths in the electrical utility industry both public and private. The course will present materials to help an individual determine if the utility industry is the correct career path for them. The course will include the basic principles, techniques, and procedures of overhead line construction, including pole climbing. Lab: four hours per week.

PTDT 1104 ELECTRICAL CIRCUITS-HIGH VOLTAGE
The study of electricity involving electrical properties of materials, electrical laws, units, components, impedance, resonance and magnetism. Lab: two hours per week. Prerequisite: Department Head approval.

PTDT 1154 LINEMAN SAFETY/EQUIPMENT
An overview of the specific concerns and equipment used by the power transmission technician. Lab: two hours per week.

PTDT 1453 PRINCIPLES OF POWER TRANSMISSION
A course dedicated to the study of transmitting electrical power. The course will contain working practices and situations that transmission lineman encounter: extra high voltage, towers, pole configurations, bare hands and other work practices. Prerequisite: PTDT 1104 Lab: two hours per week.

PTDT 2003 PRINCIPLES OF POWER DISTRIBUTION
A study of underground and above ground high voltage distribution systems. Transformer configurations, conduit sizing, line voltage drops, etc. will be discussed, as well as equipment and safety procedures for both. Lab: two hours per week.

PTDT 2013 DRIVER SAFETY AND CDL TRAINING
This course will prepare students to drive commercial vehicles in a safe manner and help students prepare for the commercial driver’s license.

PTDT 2023 PRINCIPLES OF SWITCHING AND METERING
Students will learn the basic switching and metering systems used in the power industry.

PTDT 2043 ELECTRICAL CAPSTONE EXPERIENCE
This is the final course in the curriculum and various topics of the power industry, job search techniques and related topics will be covered. Course content will be tailored to the needs of the students to prepare them for job placement.

PTDT 2104 INTERNSHIP
This course provides on-the-job training for students. Work experience may be substituted if the student is currently working in the industry and with advisor approval.

PSYCHOLOGY
PSYC 1113 INTRODUCTORY PSYCHOLOGY (S)
General introduction to the science of behavior and mental processes. Emphasizes major theoretical perspectives. Topics of study include perception, states of consciousness, memory, motivation, development, personality, psychological disorders and therapies. Prerequisites: [R] [W]

PSYC 2051-2054 PSYCHOLOGY SEMINAR (S)
Course topics vary. The content may be designed for psychology majors but is also valuable to those students majoring in nursing, alcohol and substance abuse counseling, public service, law enforcement, child development and education. Prerequisite: PSYC 1113.

PSYC 2113 PSYCHOLOGY OF ADJUSTMENT (S)
Principles of the study of adjustment and behavior. Examines psychological process of coping and adapting to everyday life types of problems to include conflicts, pressures and challenges. Some emphasis will be placed on a sociocultural approach to managing adjustment by examining the factors of culture, ethnicity and gender. Prerequisite: PSYC 1113.

PSYC 2213 LIFESPAN HUMAN DEVELOPMENT (S)
Study of the life span of humans. Emphasizes both experimental and theoretical approaches to the study of cognitive, personality, social, perceptual and physical development from conception to death. Prerequisite: PSYC 1113.
PSYC 2223 CHILD PSYCHOLOGY (S)
Effects of heredity and environment on physical, mental, social and emotional development of the individual through adolescence. Prerequisite: PSYC 1113.

PSYC 2333 PSYCHOLOGY OF RACE
Examines the human response to and perceptions of racial differences through the lens of anthropology, mythology, slavery, sexuality and sociology. Prerequisites: [R] [W]

PSYC 2413 ABNORMAL PSYCHOLOGY
The course will offer the student a broad-based perspective on psychological disorders of childhood, adolescence, and adulthood. The focus will be on the major patterns of abnormal behavior as well as causal factors. Course content is designed for psychology majors but is also valuable to those majoring in nursing, alcohol and substance abuse counseling, public service, law enforcement, child development and education. Prerequisite: PSYC 1113

PSYC 2451-2456 SPECIAL TOPICS
One to six credits, six credits maximum. Variable course credit of one to six hours. Examines contemporary issues and problems within psychology. This course may be cross-listed with other technical problems or special topics sections. [R], [W], & Department approval.

PSYC 2523 ETHICS IN BEHAVIORAL SCIENCES
Introduction to key topics in professional ethics and issues. Emphasis on ethical decision-making as an ongoing process and involving such topics as diversity issues, confidentiality, therapist/counselor confidence level, and competence. This course will also examine client rights, unethical behavior and malpractice issues. The course content is designed for psychology majors, but is also well-suited for students majoring in nursing, behavioral sciences and other health provider fields. (Will be crosslisted with POLS 2523 and SOC 2523)

PSYC 2713 PSYCHOLOGY OF AGING (S)
Provides an overview of adult development and aging. Focuses on the major theories of aging and how aging affects physical, cognitive and social functioning. Special topics include personality and aging, health aging, dementia and death and dying. Prerequisite: PSYC 1113

PSER 1123 INTRODUCTION TO LEGAL CASE MANAGEMENT
This course provides the student with a practical skills working knowledge of legal case management featuring such aspects of domestic law as premarital contracts, marriage, annulment, divorce, separate maintenance, custody, paternity, adoption, wage assignments, citations for contempt of court, preparation for trial exhibits, computations of child support, decrees and motions to modify divorce decrees. Fall (LCM) Prerequisite: [R] & [W]

PSER 2023 PUBLIC LAW
Basic legal tenets and procedures affecting public and/or nonprofit agencies. Prerequisite: [R] [W] Fall

PSER 2051-2053 PRACTICUM
Variable course credit of one to three hours for on-site public/nonprofit sector work experience; requires a detailed work journal or written report approved by advisor and copies of work product completed on the job. Prerequisite: 36 hours of course work.

PSER 2113 ALTERNATIVE DISPUTE RESOLUTION
Introduction to resolution of disputes outside the traditional courtroom procedures, with an overview of this rapidly growing area in the law, including mediation and arbitration. SPRING (LCM)

PSER 2213 INTRODUCTION TO PUBLIC SERVICE ORGANIZATIONS
Introduction to principles and problems of public administration, organizational theory, budgeting, motivation and management of human resources and the political environment. Course content is focused on leadership of public/nonprofit agencies. Prerequisites: [R] [W] Fall

PSER 2223 LEADERSHIP AND GROUP DYNAMICS
Leadership and Group Dynamics is designed to empower public service majors with the skills to improve their leadership abilities. The course integrates research, case studies and classroom instructional technology that facilitate effective leadership in public/non-profit organizations. Prerequisites: [R] [W] Fall

PSER 2293 INTRODUCTION TO NON-PROFIT ORGANIZATIONS
An overview of non-profit organizations and the importance of business and service functions in their long-term effectiveness and sustainability. Examines historical background, development, role, auspices, organization, and purposes of non-profit agencies. Special emphasis is placed on structure, program and organizational management, stewardship, fundraising, community building, volunteer services, and problems which confront these organizations.

PSER 2333 INTRODUCTORY PUBLIC/ NONPROFIT FINANCE AND BUDGET
Covers revenue sources, accounting principles and resource allocation for public/nonprofit agencies. Prerequisites: [R] [W]

PSER 2453 TECHNICAL PROBLEMS – PUBLIC SERVICE
Variable course credit of one to three hours. Examines contemporary issues and problems influencing the formation of public policy and the roles of public/nonprofit agencies. Prerequisites: [R] [W] Fall & Spring

PSER 3333 PUBLIC SECTOR BUDGETING AND RESOURCE MANAGEMENT
Covers accounting principles, revenue sources, and allocation of finances for public/nonprofit groups. Requires research component. Students who have successfully completed PSER 2333 may not receive credit for this course. Prerequisites: [R] [W] Fall, Spring & Summer

RENEWABLE/SUSTAINABLE ENERGY

RSE 1004 RENEWABLE ENERGY APPLICATIONS
An overview of a number of renewable energy technologies and their applications. Students will study energy consumption, efficiency and conservation. Renewable/sustainable technologies studied include passive and active solar thermal, photovoltaics, wind turbine generation and geothermal energy. Lecture hours: 4

RSE1013 RESIDENTIAL WIND DESIGN & APPLICATIONS
A study of solar photovoltaic cells, modules and components. This course will review the necessary equipment, design elements, safety requirements and installation procedures. Upon completion of the course students will be qualified to take the North American Board of Certified Energy Practitioners (NABCEP) photovoltaic (pv) entry level certificate of knowledge exam. Prerequisite: RSE 1004, EET 1102; lecture hours: 2; lab hours: 3

RSE 1023 SOLAR DESIGN & APPLICATIONS
The study of solar photovoltaic cells, modules and components. This course will review the necessary equipment, design elements, safety requirements and installation procedures. Upon completion of the course students will be qualified to take the North American Board of Certified Energy Practitioners (NABCEP) photovoltaic (pv) entry level certificate of knowledge exam. Prerequisite: RSE 1004, EET 1102; lecture hours: 2; lab hours: 3

RSE 1033 GEOTHERMAL DESIGN & APPLICATIONS
This course will review the basics of geothermal power and its applications. Topics include bottom hole temperatures, water injection, binary cycles, head exchanges and energy converters. Emphasis will be on residential (small-scale) applications. Prerequisite: RSE 1004, EET 1102; lecture hours: 2; lab hours: 3
RSE 2013 RESIDENTIAL ENERGY AUDITS
The student will review a number of areas including the overall building envelope, lighting systems, air conditioning systems, heating systems, otor and drives, heat pumps, ventilation systems, commercial hot water systems, water conservation and utility analysis. Emphasis will be on applications in residential buildings. Prerequisite: permission needed from department; lecture hours: 2; lab hours: 3

RSE 2113 BUILDING ENERGY AUDITS
The student will review a number of areas including the overall building envelope, lighting systems, air conditioning systems, heating systems, motors and drives, heat pumps, ventilation systems, commercial hot water systems, water conservation and utility analysis. Emphasis will be on applications in commercial buildings. Prerequisite: permission needed from department; lecture hours: 2; lab hours: 3

RSE 2211 RENEWABLE AND SUSTAINABLE ENERGY CAPSTONE
The student will review the information which they have gained over the course of the program including the overall building envelop, lighting system, geothermal condition system, renewable wind and solar, and analysis of the energy use of the building. Students will show the ability to use the equipment for energy audits by conduction a complete energy audit of a structure. Prerequisite: Department permission required.

SCI 0124 GREAT IDEAS IN SCIENCE
An introduction to the physical and biological sciences using an integrated approach. Basic scientific principles are introduced, followed by how these principles can be applied to the different scientific disciplines. Designed for students who have not met all high school curricular and performance requirements in the sciences. Lab: two hours per week.

SOCIOLOGY

SOC 1113 INTRODUCTORY SOCIOLOGY (S)
An introduction to the science of human society with emphasis on basic concepts. Assists the student in understanding the social influences on day-to-day life. Prerequisites: [R] [W]

SOC 2023 MARRIAGE AND FAMILY
Analyzes male/female role interaction as it applies to the development, maintenance and disorganization of the family, particularly in the social context of American society. Analysis centers on courtship patterns, mate selection, marital adjustment problems and marital disorganization with some cross-cultural contrasts. Prerequisite: SOC 1113

SOC 2123 SOCIAL PROBLEMS
 Exploration in selected social issues in contemporary American society, such as deviance, poverty, sexism, racism and ageism. Prerequisite: SOC 1113

SOC 2143 SOCIAL STRATIFICATION
 Exploration in selected social issues in contemporary American society, such as deviance, poverty, sexism, racism and ageism. Prerequisite: [R] & [W]

SOC 2213 CRIME AND DELIQUENCY
The crime and delinquency course will review sociological and psychological research regarding the causes of crime and current crime trends. Modern trends in the control and treatment of criminal behavior will be explored. In addition, this course will explore the major theories in the field of crime and delinquency. PREREQUISITE: SOC 1113

SONOGRAPHY

SON 1103 CARDIOVASCULAR ULTRASOUND I
 Emphasis on basic cardiac anatomy, imaging techniques and principles. Topics include basic imaging protocols, scan planes in relation to cardiac anatomy and principles of acquisition of diagnostic images. Students will review basic gross anatomy and cross sectional anatomy of the lower extremity peripheral arterial, venous, extracranial and deep abdominal vascular systems. Emphasis will be placed on the normal exam. Students will begin to familiarize themselves with the basic knowledge of direct and indirect vascular testing and standard protocols. Prerequisites: Support & Related Courses and General Education Requirements.

SON 1113 ULTRASOUND PHYSICS AND INSTRUMENTATION I
A course in the physics and instrumentation of ultrasound which will cover ultrasonic wave generation and propagation, interaction of sound and matter, transducer and instrumentation designs, ultrasound scanning modes, image artifacts and quality, Doppler effect and Doppler instrumentation components.

SON 1153 PATIENT CARE, MEDICAL ETHICS & LAW
Students will learn sonographer safety; current Sonographic protocols; and basic patient care. Vital sign assessment will be introduced to the student, as well as medical terminology. This course covers study techniques such as effective note taking, effective listening, and test-taking strategies. For the practitioner and student entering the clinical environment, it offers step-by-step descriptions of basic medical procedures and patient care, showing how to safely and ergonomically perform procedures and how to interact with patients in a clinical setting. This includes patient communication and psychological support strategies, as well as patient transfer techniques. Topics such as infection control will be emphasized, as well as current utilization of standard precautions to prevent the spread of infection. Emergency conditions and procedures, to include first aid and resuscitation techniques will be presented to the student. A study of medical ethics & the laws that affect and pertain to Sonographers and other imaging professionals is introduced and explained. This class will also help students make knowledgeable decisions about patient care issues in respect to ethics and law. This class examines the many issues that affect sonographers and other imaging professional and applies the examples to real-world situations. The student will be introduced to topics such as patient autonomy, medical documentation, informed consent, confidentiality & HIPPA, managed care, diversity and death and dying. The student will learn to apply their own values, common sense, and applicable healthcare law and medical ethics to solve challenging dilemmas. Professional interaction skills and the sonographer’s professional scope of practice will be emphasized. Prerequisites: BIOL 1303, ENGL 1113, ENGL 1213, HIST 1483, PHYS 1114, POLS 1113, MATH 1513, CHEM 1214.
SON 1203 CARDIOVASCULAR ULTRASOUND II
An emphasis on adult acquired cardiac pathologies. Topics include cardiovascular pathophysiology, quantitative measurements and the application of 2-D, M-Mode and Doppler. Recognition of the sonographic appearances of cardiovascular disease is stressed. Students will review the previous semester’s concepts, and add the abnormal upper arterial and venous systems anatomy. Basic common disease concepts and clinical assessment will continue. Ultrasound criteria and protocols will be covered and analyzed. Prerequisite: SON 1113, SON 1203, and indirect vascular procedures will be covered and analyzed. Prerequisites: SON 1113, SON 1203, and SON 2353.

SON 2125 SPANISH II
Continuation of Spanish I with further development of pronunciation, elements of grammar, reading and simple composition in Spanish combined with some exploration of Hispanic culture. Prerequisite: SPAN 1115.

SPAN 2051-2053 SPECIAL TOPICS IN SPANISH
Variable credit course of one to three hours. Examines issues within the field of Spanish language, literature, culture, or linguistics. This course may be cross-listed with other courses in another discipline. Can be repeated for credit with different topic. Some courses may require Spanish language fluency.

SPAN 2115 INTERMEDIATE SPANISH I
Further development of speaking, listening, reading and writing skills, along with short cultural and literary readings. Prerequisite: SPAN 1225 or CLEP 50.

SPAN 2123 SPANISH FOR HERITAGE SPEAKERS
An in-depth study of Spanish for the heritage speaker. Emphasis is placed on the development of reading and writing skills of those persons who speak Spanish but who have little or no formal study in the language. Prerequisite: CLEP 50 or Department Approval.

SPAN 2113 INTERMEDIATE SPANISH II
Consolidation of Spanish Language skills including vocabulary development, reading comprehension, oral fluency, and listening comprehension. Prerequisites: Spanish 2115 or Spanish CLEP score of 63.

SPAN 2143 ADVANCED SPANISH GRAMMAR AND COMPOSITION
An intensive study of Spanish grammar, composition and conversation designed to increase oral proficiency and to enhance written communication in Spanish in situations ranging from relatively simple to more complex. Prerequisite: SPAN 2115 or CLEP 50

SPEECH
SPCH 1113 INTRODUCTION TO SPEECH COMMUNICATION (H)
Principles and techniques of preparation, participation in and evaluation of communication behavior in conversation, the interview, group discussion and public speech. A competency-based approach. Prerequisites: [R] [W]

SPCH 2723 INTERPERSONAL COMMUNICATION (H)
Focus is on developing a conceptual framework for viewing varied interpersonal relationships as transacted through communication. Through participation in class activities students are encouraged to develop skills appropriate to overcoming problems experienced in real-life situations. Prerequisites: [R] [W]
STATISTICS

STAT 2013 ELEMENTARY STATISTICS (A)
Introduction to the theory and methods of statistics. Descriptive measures, elementary probability, samplings, estimation, hypothesis testing, correlation and regression. Prerequisite: MATH 1513 or equivalent [R].

SURVEYING

SURV 1101 INTRODUCTION TO SURVEYING
Introduction to the profession of land surveying. Course will familiarize the student with the history of surveying in the United States, knowledge of the terminology as well as the equipment used in the profession. Students will gain an elementary knowledge of the duties and responsibilities of a professional land surveyor.

SURV 1103 BASIC CARTOGRAPHY
This is an introductory course and an accompanying lab designed to teach students the basics of maps with a concentration on the interpretation thereof. Attention will be given to the interpretation of surface features and active processes as well as to problem solving and planning. Most of the course will be devoted to the origins of maps, projection types, the techniques of mapping, locational reference systems, and terrain analysis; however, computer cartography, GIS, photogrammetry, and satellite imagery interpretation will be introduced.

SURV 1133 FUNDAMENTALS OF GIS
An introductory course in GIS and an accompanying lab using ESRI ArcGIS software. The course will discuss different functions of a GIS and its capabilities; GIS data collection and input; GIS data types and basic mapping concepts.

SURV 1232 PRINCIPLES OF HYDRAULICS
Principles of fluid mechanics, pressure conduits, open channel flow, fluid measurement and drainage structures. Design of collection systems for municipal drainage.

SURV 1233 MICROSTATION
An introductory course in MicroStation. Topics will include microstation design environment, viewing and zooming, models, levels, basic drawing tools, drawing with precision, modification tools, selecting and grouping elements and complex elements. Prerequisite: SURV 2614 and GIS 1113.

SURV 1234-1238 TECHNICAL PROBLEMS IN SURVEYING
One to six, maximum six credits. Technical problems in surveying that are of particular interest to technicians. Prerequisite: consent of the department head.

SURV 2033 BASIC GEODESY AND MAP PROJECTIONS
The history of geodesy including measurement techniques, coordinate systems, ellipsoids, and datums are reviewed. The modern geodetic and Cartesian coordinates systems, as well as the differences between grid and ground coordinates systems, and the current geodetic and Cartesian coordinate systems available today are discussed.

SURV 2051-2056 ADVANCED TECHNICAL PROBLEMS IN SURVEYING
One to six, maximum six credits. A study of problems in applied engineering science that are of particular interest to the engineering technician.

SURV 2113
An advanced course in GIS and an accompanying lab using ESRI ArcGIS software. This course is designed to provide students with hands on experience in problem solving and various spatial analysis methods including, classification, assessment of quantities and densities, location analysis, and change over time. Prerequisites: SURV 1133.

SURV 2143 HIGHWAY DESIGN AND CONSTRUCTION
Study of transportation, roadways and their functions. Roadway foundations, pavement types, characteristics, composition and structural design; construction procedures; transportation systems planning.

SURV 2213 REMOTE SENSING
An introduction to the physics and technical issues surrounding the acquisition and utilization of remotely sensed airborne and satellite images for the study of physical and human landscapes. Techniques for analyzing and interpreting images for studying biological, geological, hydrological and oceanographic processes as well as human activities will be covered. Prerequisites: SURV 2743.

SURV 2232 ROUTE SURVEYING
Principles of route surveys, use of photogrammetry in route design and layout. Computer applications. Prerequisite: SURV 2614

*SURV 2233 CIVIL CAD DRAFTING
Covers a land survey CAD (computer-aided drafting) system, experience in contour maps, plan sheets, sections and details. Lab: three hours per week. Prerequisites: SURV 2614 and INDD 1614.

SURV 2242 RESIDENTIAL SUBDIVISION DESIGN
Fundamentals of land subdivision and platting. The course will discuss the role of the surveyor, land use controls, interest groups in land subdivisions, the platting process, subdivision surveying, and subdivision design principles and standards. Prerequisite: SURV 2232.

SURV 2423 PHOTOGRAMMETRY
Procedures and methods used for deriving metric information from photographs, analog processes for using aerial photographs in production of topographic maps, flight planning, and cost estimation in aerial mapping work. Introduction to photo-coordinate measurement devices and their calibration. Mathematics of modern photogrammetry. Prerequisites: SURV 2734.

*SURV 2433 CIVIL CAD DRAFTING II
Continuation of SURV 2233. Advanced applications of civil CAD (computer-aided drafting) software to assigned civil or survey projects. Lab: three hours per week. Prerequisite: SURV 2233.

SURV 2600-04 INTERNSHIP
This course is designed to provide the student with a work-based learning experience. Students will gain hands-on knowledge by working directly for a professional land surveyor. Prerequisite: Department permission required.

SURV 2614 SURVEYING I
First course in measurement science. Introduction and application of basic plane surveying procedures, linear and angular measurements and differential leveling, traverse and topographic surveys. Computer application to surveying calculations. Lab: three hours per week. Prerequisite: MATH 1613 or Co-requisite MATH 1613.

SURV 2623 LEGAL PRINCIPLES OF LAND SURVEYING I
History of land surveying and law development, legal boundaries, title to land, public land surveys and general principles for subdivision of a section. Prerequisite: SURV 2614.

SURV 2633 LEGALS PRINCIPLES OF LAND SURVEYING II
Intensive study in the basic principles of legal descriptions of land, boundary agreements, boundaries adjacent to bodies of water, highway and street rights-of-way and deeds. Lab: three hours per week. Prerequisite: SURV 2623.

SURV 2643 ADVANCED SURVEYING
Care and adjustment of instruments, controls by triangulation, measurement and computation of earthwork, topographic surveys with conventional instruments and photographic methods. Review of Oklahoma laws governing land surveys and professional licensing. Lab: three hours per week. Prerequisite: SURV 2614.

SURV 2651-2654 TECHNICAL PROJECTS - SURVEYING
One to four, maximum four credits. Special project will be assigned by the advisor with the approval of the department head. A comprehensive written report of the work accomplished must be prepared and approved. Before credit is given an examination may also be required. Prerequisites: completion of three semesters of work in a technical college curriculum or 36 credit hours.

SURV2733 PROGRAMMING FOR SURVEYORS
An introductory course in computer programming for surveying students. Topics will include: input/output, conditional statements, loops, functions and sub-routine. The course will program the latest hp calculator with routines specifically for surveying. Prerequisites: SURV 2643, SURV 2232, and SURV 2734.
SURV 2734 APPLIED SURVEY COMPUTATIONS
The use of applied statistics in land surveying, error propagation in polygon and link traverses, discussion of positional tolerance and an introduction to least square adjustments using StarNet and Hector the Vistor software. Prerequisites: SURV 2323, SURV 2643 and SURV 2633.

SURV 2743 FUNDAMENTALS OF GPS
Fundamentals of GPS, geodesy, project planning, field procedures, post processing of data, network adjustments and real time kinematic techniques. Prerequisite: SURV 2614

SURV 2773 FUNDAMENTALS OF SURVEYING EXAM REVIEW
This course is designed to help a student prepare for taking the FS exam. Topics will include the NCEES exam syllabus, basic surveying and mapping concepts, surveying computations and field techniques, applications of surveying, boundary law, and subdivision of land. Prerequisite: Permission from the department required.

SURV 2783 CAPSTONE
A final semester course designed to integrate all previous coursework into one final project. The student will perform records research, field work, boundary analysis, and CAD work to submit a final survey that meets minimum technical standards. Permission from the department required.

TECHNICAL SPANISH: TRANSLATION AND INTERPRETATION

TSTI 1113 INTRODUCTION TO INTERPRETING
Introduction and practice of the basic building blocks of interpreting – analyzing, summarizing and paraphrasing, listening comprehension, shadowing, including basic strategies for short consecutive interpreting and sight translation. Prerequisite: SPAN 2143 or Department approval.

TSTI 1123 INTRODUCTION TO TRANSLATION
The theory and practice of translation, including general background regarding human language and language families and the history of translating, as well as basic strategies for understanding and rendering written text from Spanish to English and to Spanish. Prerequisite: SPAN 2143 or Department Approval

TSTI 1133 FUNDAMENTALS OF TRANSLATION
Students will complete a series of increasingly complex and challenging translation exercises in a variety of styles. The course also offers a practical review of English and Spanish writing and editing skills necessary to produce clear, polished translations. Prerequisite: TSTI 1123

TSTI 1143 FUNDAMENTALS OF INTERPRETATION – CONSECUTIVE AND SIMULTANEOUS
A practical course aimed at developing proficiency in interpreting in a variety of settings. Students develop techniques for consecutive interpreting and are introduced to basic techniques for simultaneous interpreting. Topics include memory development, note-taking, and assessment of interpreter performance. Prerequisite: TSTI 1113.

TSTI 1213 ETHICS AND BUSINESS PRACTICES
The role of the interpreter in business, conference, health care, legal and law enforcement settings; and standards of business practice and legal issues in translation and interpreting. This course also covers how to market translation and interpreting services and how to set up a business as a freelance translator or interpreter. Prerequisite: [R] & [W].

TSTI 1223 TECHNOLOGY FOR TRANSLATORS AND INTERPRETERS
Instruction in areas such as electronic editing, proofing tools and use of computers, email and the Internet to help students improve productivity and consistency. Students are also introduced to localization and translation memory tools. Prerequisite: TSTI 1113.

TSTI 1233 VOCABULARY ACQUISITION AND TERMINOLOGY RESEARCH
Development of general vocabulary in English and Spanish, as well as skills in terminology research, dictionary usage and glossary building. Basic Terminology and resources in fields such as medicine, law, computers, business and international trade are covered. Prerequisite: SPAN 2143.

TSTI 2051-2053 SPECIAL TOPICS IN SPANISH
Variable credit course of one to three hours. Examines issues within the field of Spanish language, literature, culture, or linguistics. This course may be cross-listed with other courses in another discipline. Can be repeated for credit with different topic. Some courses may require Spanish language fluency.

TSTI 2113 COURT PROCEDURES
Examination of the procedures and protocol of different settings where interpreting occurs at the federal, state, county and municipal levels. Includes explanations of the judicial and quasi-judicial systems operating in the state of Oklahoma. Prerequisite: TSTI 1113 & TSTI 1123

TSTI 2123 FUNDAMENTALS OF COURT INTERPRETING
An introduction to the profession of court interpreting. Students are given an overview of the U.S. justice system, English legal language, criminal and civil procedure. The court interpreter’s code of ethics is presented; and students engage in role-playing activities to illustrate the basic tenets of the code. Prerequisite: TSTI 2113.

TSTI 2133 INTERPRETING IN LEGAL SETTINGS
Legal interpreting in contexts such as courtrooms, attorney offices and law enforcement settings. Attention is given to the registers of speech encountered in typical legal proceedings. Prerequisite: TSTI 2123.

TSTI 2213 INTERPRETING IN HEALTH CARE SETTINGS
The art and skills of health care interpreting and the role, responsibilities and boundaries of the interpreter seen as an active team player in the triadic medical interview (provider-patient-interpreter). The course also presents the interpreter’s role as linguistic and cultural mediator in multidisciplinary settings. Because of the medical setting students will be required to obtain a background check and certain immunizations. Please contact the program director for further information. Prerequisite: TSTI 1113.

TSTI 2223 MEDICAL INTERPRETING I: MEDICAL TERMINOLOGY
Introduces prefixes, suffixes and word roots used in the language of medicine. Topics include Spanish and English medical vocabulary and terms that relate to pathological conditions and the treatment of selected systems. Prerequisite: SPAN 2143.

TSTI 2233 MEDICAL INTERPRETING II: ANATOMY AND PHYSIOLOGY
The second in a series of medical terminology courses. Emphasis on Spanish and English medical vocabulary and terms that relate to anatomy and physiology. Prerequisite: TSTI 2223.

TSTI 2313 FUNDAMENTALS OF LAW ENFORCEMENT INTERPRETING
Introduction to interpreting in a variety of law enforcement contexts such as accidents, arrests, interrogations, fact finding interviews, investigations, wire taps, formal statement declarations, traffic stops and community outreach. Prerequisite: TSTI 1113.

TSTI 2323 INTERPRETING IN LAW ENFORCEMENT SETTINGS
Interpreting in settings such as crime and accident scenes, detention centers, jails and prisons. Emphasis on the development and correct interpretation of colloquial, slang, police jargon and gang-related vocabulary. Includes understanding of laws pertaining to arrested individuals and the interpretation of Miranda rights or “Informing the Accused” forms. Prerequisite: TSTI 2313.

TSTI 2411 PRACTICUM
The internship links students to a practical work setting in a law firm, hospital, business or community organization. This internship will provide valuable work experience as a legal, medical, business or community interpreter and/or translator receiving close supervision or mentoring within an organization. Students should complete all Technical Occupational Specialty courses before beginning the practicum. A background check and/or certain immunizations may be needed. Please check with the program director for further information. Prerequisite: Department head permission required.
VT 1012 VETERINARY MEDICAL TERMINOLOGY
A systematic approach to learning the parts of veterinary terms, thereby allowing the student to understand basic medical concepts and apply critical thinking skills in determining the meaning of new medical terms.

VT 1112 BREEDS, RESTRAINT AND FIRST AID
This course is designed to introduce the student to the veterinary technician profession, the rules and regulations that govern technicians and to provide the student with an opportunity to identify breeds and breed characteristics, demonstrate appropriate restraint and administer first aid to domestic animals. Prerequisites: VT 1012, (CHEM 1214 or CHEM 1314), MICRO 2124, (MATH 1413 or MATH 1513). Co-requisites: VT 1114, VT 1213. Additional lab fee required.

VT 1123 VT ANATOMY AND PHYSIOLOGY I
Beginning course in a two-semester sequence. Covers directional terminology, developmental anatomy and histology as well as gross morphology and function of skeletal and external structures in animal species. Also covers blood related concepts. Prerequisites: VT 1012, (CHEM 1214 or CHEM 1314), MICRO 2124, (MATH 1413 or MATH 1513). Co-requisites: VT 1113, VT 1213. Additional lab fee required.

VT 1133 VETERINARY TECHNICAL SCIENCE
Provides VT discipline specific introductory chemical and biological information, utilizing veterinary industry related terminology, illustrations and applications. Prerequisite: Departmental Approval Required.

VT 1213 LABORATORY TECHNIQUES I
Students perform hematologic techniques and identify, classify and discuss the significance of internal and external parasites pertinent to veterinary medicine. Prerequisites: VT 1012, (CHEM 1214 or CHEM 1314), MICRO 2124, (MATH 1413 or MATH 1513). Co-requisites: VT 1113, VT 1114. Additional lab fee required.

VT 1224 VT ANATOMY AND PHYSIOLOGY II

VT 1221-1232 TECHNICAL PROBLEMS-VETERINARY TECHNOLOGY
One to three credits maximum six credits. Technical problems in veterinary technology that are of particular interest to Veterinary Technology majors. Prerequisite: Department head approval required.

VT 2013 ANIMAL REPRODUCTION, NUTRITION AND PRODUCTION
Investigates genetics, reproduction and breeding soundness examination of common domestic animals. Basic food nutrient, nutritional requirements and ration formulation will also be included. Both facets of the course will relate to production. Prerequisites: VT 1113, VT 1114, VT 1213. Co-requisites: VT 1224, VT 2123. Additional lab fee required.

VT 2114 CLINICS AND NURSING
Provides instruction in reportable disease regulations, dental prophylaxis, sanitation procedures, medical records, nursing procedures, surgical prepping and assisting, dosage calculation and anesthesia. Prerequisites: VT 1224, VT 2103, VT 2123. Additional lab fee required.

VT 2123 LABORATORY TECHNIQUES II
Students perform coagulation tests, urinalysis, ELISA tests, blood chemistries, vaginal cytology, semen evaluation and aspiration techniques for cytological exam to aid in evaluating and interpreting physiological bodily functions. Prerequisites: VT 1113, VT 1114, VT 1213. Co-requisites: VT 1224, VT 2103. Additional lab fee required.

VT 2213 WILD, ZOO AND LABORATORY ANIMAL CARE
Includes breed identification, restraint, husbandry, nursing care and management of wild, zoo and laboratory animals. Also explores legal, ethical and safety issues concerning these animals. Prerequisites: VT 1224, VT 2103, VT 2123. Additional lab fee required.

VT 2223 VT RADIOLOGY
Course is designed to introduce the student to the various aspects of radiology, including safety, theory, positioning, making exposures and development of radiographs. Prerequisites: VT 2123, VT 2103, VT 2123. Additional lab fee required.

VT 2233 VT PHARMACOLOGY
An introductory pharmacology course which includes instruction in labeling, packaging and dispensing drugs, routes of administration, dosage regimen, pharmacokinetics and classification. Prerequisites: VT 2224, VT 2103, VT 2123.

VT 2251-2253 TECHNICAL PROBLEMS-VETERINARY TECHNOLOGY
One to three credits maximum six credits. Technical problems in veterinary technology that are of particular interest to Veterinary Technology majors. Prerequisite: Department head approval required.

VT 2313 SUMMER PRECEPTORSHIP
An occupational experience afforded by cooperative effort between the student, Oklahoma State University-Oklahoma City and an approved veterinary medical practice. Prerequisite: Successful completion of the first four semesters of the Veterinary Technology degree curriculum. Prerequisite: Department head permission.

VT 2314 PRECEPTORSHIP
An occupational experience afforded by cooperative effort between the student, Oklahoma State University-Oklahoma City and an approved veterinary medical practice. Prerequisite: Successful completion of the first four semesters of the Veterinary Technology degree curriculum. Prerequisites: VT 2114, VT 2213, VT 2404 and department head approval.

VT 2402 VETERINARY CLINIC MANAGEMENT
This course is designed to introduce the student to the veterinary technician profession, the rules and regulations that govern technicians and cover basic veterinary medical office procedures, staff and client relations, human-animal bond, OSHA regulations ethics and professional conduct. Prerequisites: VT 1012, (CHEM 1214 or 1314), MICRO 2124, MATH 1413 OR MATH 5153. Co-Requirements: VT 1112, VT 1213, VT 1123.

VT 2404 ANIMAL PATHOLOGY
An introductory pathology course which includes a comprehensive overview of general pathology including immunology, toxicology and common diseases of domestic animals, including zoonotic implications and preventative measures. Prerequisites: VT 1113, VT 1114, VT 1213, VT 1224, VT 2103, VT 2123.

VT 2504 ADVANCED CLINICS & NURSING
Provides instruction in common diagnostic procedures, reportable disease regulations, sterile procedures, medical records, nursing procedures, dental prophylaxis, surgical prepping and assisting, dosage calculation and anesthesia administration as they pertain to small animals, horses and ruminants. One lecture and seven lab contact hours per week. Lecture and lab provide a combined 4 credit hours. Prerequisite: VT 2114
VT 2442 WTT CAPSTONE – BOARD EXAM REVIEW
Emphasis is on preparation for state and national board examinations and assurance of clinical competency. Course content is tailored to the specific needs of students. Prerequisite: Department head approval required. Additional lab fee required.

VT 2504 ADVANCED CLINICS & NURSING
Provides instruction in common diagnostic procedures, reportable disease regulations, sterile procedures, medical records, nursing procedures, dental prophylaxis, surgical prepping and assisting, dosage calculation and anesthesia administration as they pertain to small animals, horses and ruminants. One lectures and seven lab contact hours per week. Lecture and lab provide a combined 4 credit hours.

VT 2651-2656 TECHNICAL PROBLEMS-VETERINARY TECHNOLOGY
One to six credits maximum six credits. Technical problems in veterinary technology that are of particular interest to Veterinary Technology majors. Prerequisite: Department head approval required.

WIND TURBINE

WTT 1004 INTRODUCTION TO WIND ENERGY
This course will introduce the student to wind energy. It will cover the various types of wind turbines, manufacturing companies, maintenance and repair, and employment opportunities. Student will also receive instruction and certification from the OSHA 10 hour certificate. The climb safety and tower rescue training will be included as the laboratory component.

WTT 1103 PRINT READING
This course covers the electrical circuits and schematics encountered in the wind industry. This includes circuits of the entire wind turbine as well as schematics of each electronic component.

WTT 1134 AC/DC THEORY
Review of elementary principles of electricity, OHM’s law, circuit solutions, magnetism, inductance and capacitance. This course also introduces transient analysis, network theorems, resonant circuits, filters, AC power, and computer aided circuit analysis techniques. Prerequisite: WTT 1004 & MATH 1513

WTT 1213 WIND TURBINE AND ELECTROMECHANICAL SYSTEMS
Course will introduce students to the various components of a wind turbine and how each component functions to convert wind energy into electrical energy and transmit it to the grid. Prerequisite: WTT 1004 & MATH 1513

WTT 2113 WIND TURBINE OPERATION & MAINTENANCE
In-depth study of the components, principles and processes involved in the generation of electrical power using wind energy. Prerequisite: WTT 1004 & MATH 1513

WTT 2213 WIND TURBINE MOTORS & GENERATORS
A study of the operation and maintenance of motors and generators, including an in-depth look at the common components and contrasting operating procedures. Prerequisite: WTT 1004 & MATH 1513

WTT 2313 WIND TURBINE HYdraulICS AND MECHANICAL SYSTEMS
An introduction to operation and maintenance of the mechanical and hydraulic systems that control blade pitch, turbine speed and transfer the energy from the wind through a gearbox to the generator. Prerequisite: WTT 1004 & MATH 1513

WTT 2413 WIND TURBINE SITING & CONSTRUCTION
An introduction to the mapping of wind patterns that help assist in determining where wind turbines will be located and they can be best constructed, delivered and set up for operation. Prerequisite: WTT 1004 & MATH 1513

WTT 2533 WIND TURBINE DIAGNOSIS & REPAIR
The course will cover the theory and practice of installation, operation, maintenance, troubleshooting and repair of wind turbine electromechanical systems. Prerequisite: CIS 1113, WTT 1004 & MATH 1513.

WTT 2553 WIND TURBINE CAPSTONE
This is the final course in the wind turbine technology program. Various topics in the wind energy industry will be covered as well as job searching and interview techniques. Course content will be tailored to the needs of the students to prepare them for job placement. Prerequisite: WTT 1004, MATH 1513 & Department Head approval.

WTT 2600 2601-2606 WIND TURBINE INTERNSHIP
The cooperative agreements with other educational institutions and/or wind turbine owner/operators, Students will have the opportunity for “Hands On” work on operational wind turbines. Students will work under the supervision and direction of professionals in the wind energy industry. Variable Credit one-six credit hours. May be repeated up to a maximum of six credit hours. Prerequisite: WTT 1004, MATH 1513 & Department Head approval.

WRITING

WRTG 2103 INTRO TO GRANT WRITING AND ADMINISTRATION (H)
Participants in this course will examine the entire grant proposal development process including research tools and techniques, criteria for narrowing the funding, effectively organizing and writing the proposal, packaging the proposal, follow-up and tracking. The course will provide practice and hands on work in the writing of a grant proposal for funding. This course will also offer grant administration, metrics, evaluation and reporting. Prerequisite: ENGL 1113;