ART 2263 SYSTEMS AND MATERIAL
Architectural, structural, environmental control systems and materials in architecture.

ART 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 AutoCAD. Prerequisite: ARCH 1614

ARCH 2322 CONSTRUCTION SPECIFICATIONS
Construction specifications and their significance as part of the contract documents. Specification language and style follows construction specification institute format.

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 construction of buildings, as well as the roles the architectural technician may play in the process. Prerequisites: ARCH 1103

ARCH 2403 3D MODELING-INTRO TO SKETCHUP
Advanced CAD (computer aided drafting) system operation applications with emphasis on wireframe and solid 3D CAD system models.

ARCH 2650 (1-4) TECHNICAL PROJECTS - ARCHITECTURAL TECHNOLOGY
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: Department Head Approval.

ARCH 2713 ADVANCED CAD RIVET I
A continuation of ARCH 2723 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 1103 OR CONS 1103

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 cutting edge 3D architecture software. Prerequisite: ARCH 2713.

ART 1203 DESIGN I
An introduction to visual problem solving. Organization 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 watercolor, pencils, ink, airbrush materials, pastels, collage and crayon. 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.

ART 2050 (1-6) 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] [M] [SCI]

BUSINESS

BUS 1013 BUSINESS ETHICS
A study of contemporary and classical views relating to moral judgments and conduct within the business environments. Prerequisite: [R][W]

BUS 1320 (1-4) TECHNICAL PROBLEMS-BUSINESS
One to four, maximum six credits. Technical problems in business that are of particular interest to technicians. Prerequisite: Instructor Approval.

BUS 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] and ICSM 0104

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. Prerequisite: [R]
ARCH 2263 SYSTEMS AND MATERIAL
Architectural, structural, environmental control systems and materials in architecture.

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 AutoCAD. Prerequisite: ARCH 1614

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Construction specifications and their significance as part of the contract documents. Specification language and style follows construction specification institute format.

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ARCH 2403 3D MODELING-INTRO TO SKETCHUP
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ARCH 2650 (1-4) TECHNICAL PROJECTS - ARCHITETURAL TECHNOLOGY
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: Department Head Approval.

ARCH 2713 ADVANCED CAD RIVET I
A continuation of ARCH 2723 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 1103 OR CONS 1103

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 cutting edge 3D architecture software. Prerequisite: ARCH 2713.

ART 1203 DESIGN I
An introduction to visual problem solving. Organization 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]

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BUS 1320 (1-4) TECHNICAL PROBLEMS-BUSINESS
One to four, maximum six credits. Technical problems in business that are of particular interest to technicians. Prerequisite: Instructor Approval.

BUS 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] and ICSM 0104

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. Prerequisite: [R]

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 1212 HUMAN ANATOMY LAB (L)
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 LPN or paramedic program. Prerequisites: [R] [SCI], ICSM 0104 and completed or concurrent enrollment in BIOL 1515.

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] and ICSM 0123.

BIOL 1311 PRINCIPLES OF BIOLOGY LABORATORY (L)
Laboratory supplementing BIOL 1303. Corequisite: BIOL 1303. Prerequisites: [R] [SCI] and 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. Prerequisites: [R] [SCI] and ICSM 0123.

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

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

BIOL 2214 HUMAN ANATOMY (L, N)
Morphology of the human body and its systems. Laboratory includes dissection and study of the human cadaver. Prerequisites: [R] [SCI] and ICSM 0123. BIOL1012 is suggested but not required.
BUS 2013 INTRODUCTION TO IRS FORM 990
Focuses on the requirements for development and submission of the IRS form 990 and the various schedules and attachments required by the U.S. Federal Government for non-profit organizations. This includes requirements for board disclosure and policies. Prerequisites: [R] [W] (Spring Only)

BUS 2023 BUSINESS STATISTICS
Explores descriptive measures, elementary probability, sampling, estimation and testing, regression and correlation and analysis of variance. Prerequisites: Any college level Math.

BUS 2033 BUSINESS ETHICS
A study of contemporary and classical views relating to moral judgements and conduct within the business environments. Prerequisite: Instructor Approval

BUS 2040 (1-6) ADVANCED TECHNICAL PROBLEMS - BUSINESS
One to six, maximum six credits. A study of applied problems that are of particular interest to the business environment. Prerequisite: Advisor Approval

BUS 2052 BUSINESS CAPSTONE
This course is a capstone course for business students. The course provides students the opportunity to apply the knowledge acquired in their business degree program to advanced real-world situations through the development of an approved project. Prerequisites: ACCT 2103 and MKT 2273.

BUS 2113 BUSINESS COMMUNICATIONS
Includes effective communication strategy; effective report presentation (both written and oral), effective summarizing skills and analytical reasoning skills. Focuses on the dynamics, qualities, functions and methods of administrative communication; problems and practices of preparing effective material. Prerequisites: [R] [W]

BUS 2333 BUSINESS LAW
An introduction to the principles of law in relation to business. Topics include law of contracts, law of agency, law of property and sales and negotiable instruments. Special attention is given to practical business problems and their legal implications. Prerequisites: [R] [W]

BUS 2613 BUSINESS PLAN DEVELOPMENT
Supervised course experience that is project-driven. Student will work as an individual or with a team to develop a business plan that addresses the entire business concept including implementation. This course exposes the student to real-world experiences and enhances his/her entrepreneurial skills. Advisor Approval Required

BUS 2750 (1-6) INTERNSHIP
Supervised work experience that permits students to apply classroom knowledge. Work assignments must be meaningful and must be approved by department head prior to commencing internship. Supervisor will be required to submit a final evaluation report upon completion of internship.

Before credit is given, a comprehensive written report of the work accomplished must be prepared by the student and approved by the department head. Prerequisites: Sophomore Standing and Department Head Approval

CHEMISTRY

CHEM 1104 BASIC CHEMISTRY (L, N)
A one-semester course 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. Prerequisites: [R] [SCI] and MATH 0123.

CHEM 1154 GENERAL, ORGANIC AND BIOCHEMISTRY
Chemistry course recommended for allied-health and veterinary technology majors. This course includes unit conversions, nomenclature, chemical bonding, stoichiometry, solutions, gas laws, acids and bases, organic chemistry, and introductory biochemistry. This course includes a laboratory. Prerequisites: [R] [M].

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; gas laws and thermochemistry with laboratory. Prerequisites: [R] [M] [SCI].

CHEM 1315 GENERAL CHEMISTRY I (L, N)
An algebra-based course. The first of a two-semester sequence in general chemistry. This course includes nomenclature, atomic and molecular structure, stoichiometry, bonding, states of matter, thermochemistry, acids and bases, and gas laws; with laboratory. Prerequisites: (MATH 1483 or 1513) and (CHEM 1104 or High School Chemistry).

CHEM 1515 GENERAL CHEMISTRY II (L, N)
An algebra based course. This course is a continuation of CHEM 1315 with emphasis on kinetics, equilibrium, thermodynamics, electrochemistry, qualitative analysis, organic chemistry, biochemistry, and nuclear chemistry; with laboratory. Prerequisite: CHEM 1315.

CHEM 2014 INTRODUCTION TO ORGANIC CHEMISTRY (L, N)
One semester organic chemistry course recommended for allied-health majors. Includes aliphatic and aromatic nomenclature, structure, stereochemistry, selected mechanisms and reactions. No laboratory is required for this course. Prerequisite: CHEM 1154 or CHEM 1315.

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 ketones, 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: ISKR 0033

*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. Prerequisite: [R]

CIS 1320 (1-6) TECHNICAL PROBLEMS-CIS
The study and/or analysis of a selected topic in Computer Information Systems. May be repeated with a different topic. Variable credit. Can be repeated up to six hours. Prerequisite: Department Head Approval

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 the review of software. Students will have an opportunity to apply their knowledge through hands-on projects, exercises and case study assignments. Prerequisite: CIS 1113 or Instructor Approval.

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: 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 2033 PYTHON PROGRAMMING
Programming and problem solving using Python. The course will emphasize principles of the software development cycle, procedures and functions, object-oriented programming, and an understanding of fundamental programming concepts such as data structures. 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

*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 2150 (1-6) ADVANCED TECHNICAL PROBLEMS-COMPUTER PROGRAMMING
One to six, maximum six credits. A study of applied problems of particular interest to the computer programmer.

*CIS 2253 SPREADSHEET APPLICATION
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 1503

*CIS 2322 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. Prerequisite: CIS 1123

*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 encapsulations. The design process is object oriented. Prerequisite: CIS 2013 (Fall only)

*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 1503

*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. Prerequisite: CIS 2013 or CIS 2023

*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 (Fall only)

*CIS 2463 DATABASE APPLICATIONS
The student will use a selected database management program to create and edit database files. The student will also search, organize and build reports, forms and templates with the database files. Prerequisites: CIS 2363

*CIS 2513 PRINCIPLES OF INFORMATION 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: [R]

*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 scoping, estimating, scheduling, budgeting, tracking, and controlling. The course uses Microsoft project software. Prerequisites: [R] [W]

*CIS 2650 (1-4) 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. Prerequisite: Department Head Approval

*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 1533 or CIS 2013 or CIS 2023

*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)

*CIS 2803 CAPSTONE
As the capstone course of the Computer Science Program, the student will demonstrate the collected knowledge, skills and techniques acquired in the program courses by working through scenarios. Students will demonstrate problem solving, critical thinking, research techniques and technical writing. Computer ethics and group dynamics will be emphasized to help round out the student’s education. Prerequisite: Department Head Approval
CONSTRUCTION

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 alone 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. (Offered on demand)

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 1213 MECHANICAL EQUIPMENT OF BUILDINGS
Plumbing, heating and air conditioning as it pertains to residence and small commercial buildings. Design and working drawings on plumbing and heating problems.

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. Same as SURV 1214.

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 (30 hour) certification in OSHA safety standards.

CONS 2050 (1-6) 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.

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. (Offered on demand)

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

CONS 2123 CONSTRUCTION LAW
Legal issues arising from design and construction services, focusing on risk management and liability which affect the construction process. Students will gain an understanding of construction contracts, subcontract, schedule delays, bonds and insurance. Upon completion of this course a general knowledge of the legal aspect affecting the construction industry and projects. Prerequisite: CONS 2103

CONS 2203 CONSTRUCTION PLANNING AND SCHEDULING
This course will introduce the student to effective methods of planning, scheduling, monitoring and controlling construction projects. The techniques covered in this class are also applicable to the management of any other project-oriented activity. Emphasis will be placed on network scheduling techniques, both manual and computer based. Prerequisite: CONS 2103

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 2223 GREEN BUILDING SYSTEMS & LEED 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. An understanding of the US Green Building Council Leadership in Energy and Environmental Design (LEED) building rating program will also be covered. Prerequisite: CONS 2124

CONS 2224 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 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.

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. Prerequisites: CONS 1214

CONS 2502 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 the preparation of an estimate and bidding procedures. Prerequisite: CONS 2423.

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: CVSS 1103.
**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 guilt 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 1320 (1-6) 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 2050 (1-4) 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 2313 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 2323 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 2333 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 2343 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, Sophomore Standing and Department Head Approval.

**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 Department Head Approval.

**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: Sophomore Standing and Department Head Approval.

**DIETETIC TECHNOLOGY**

**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 1004 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 1103 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 1214 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 1103 and NSCI 1113.

**DT 2123 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 1004.

**DT 2114 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 1214.

**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 2223 PRACTICUM- MEDICAL NUTRITION THERAPY
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. Prerequisite: NSCI 1113

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. Prerequisite: [R] and Department Approval.

EARLY CARE EDUCATION

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
An introduction to planning and effectively implementing administrative systems that carry out an Oklahoma licensed child care facility’s program mission, goals and objectives. Students receive an overview of the various types of Oklahoma licensed programs available in the early care education field. Emphasis is given to advocating for young children and the programs serving children, the NAEYC Code of Ethics and Programs Administrators supplement, as well as OKDHS licensing regulations. Oklahoma’s Reaching for the Stars, the Oklahoma Early Learning Guidelines, the environmental rating dales, state fire codes, health codes, legal and tax issues, and national credentialing/accreditation programs. One (1) clock hour of supervised fieldwork experience must be completed at the OSU-OKC Child Development Lab School. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a grade of “C” or higher in this course.

ECCD 1113 PERSONNEL SUPERVISION
Leadership, supervisory and group facilitation styles, communication styles, and techniques of conflict resolution are explored. The ability to recruit, hire, supervise, coach, and motivate diverse staff to high levels of performance as well as develop and implement appropriate staff evaluation tools and disciplinarian steps including termination are emphasized. Components of an Early Care Education Personnel Handbook are discussed. One (1) clock hour of supervised fieldwork experience must be completed at the OSU-OKC Child Development Lab School. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a “C” or higher in this course.

ECCD 1123 FOUNDATIONS OF EARLY CHILDHOOD EDUCATION AND CARE
A practical introduction to the field of early childhood with focus given to care provided in Oklahoma licensed early care education facilities. Emphasis is given to the history of early childhood, awareness of cultural influences and backgrounds, the need to understand child growth and development, developmentally appropriate practices, positive guidance, the importance of observational skills and the inclusion of children with differing abilities. The National Association for the Education of Young Children Code of Ethical Conduct and the importance of advocating for young children and quality care are highlighted. The Oklahoma Early Learning Guidelines (ELG’s) are incorporated in course content. One (1) clock hour of supervised fieldwork experience must be completed at the OSU-OKC Child Development Lab School. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a grade of “C” or higher in this course.

ECCD 1133 CHILD HEALTH, SAFETY AND NUTRITION
An introduction to the interrelationship of child health, safety, and nutrition using a holistic environmental approach. Emphasis is given to application in Oklahoma licensed early care education environments. This includes the management of a safe indoor/outdoor environment, infection control, emergency response procedures and promoting good nutrition. Students will receive clear concise thought provoking information reflective of the latest developments and practices in the field regarding SIDS, fetal alcohol syndrome and obits media. No supervised fieldwork experience is required. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a “C” or higher in this course.

ECCD 1141 CHILD PASSENGER SAFETY & TRANSPORTATION
Training and Education provided meets the approved child passenger safety course required by OKDHS Licensing Regulations for Child Care Centers/Homes for programs providing transportation for children younger than six years of age. Focus is given on Oklahoma’s current legislation for child passenger restraint, and the proper installation and use of child passenger restraints. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a “C” or higher in this course.

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 1101.

ECCD 1243 OBSERVING AND ASSESSING THE YOUNG CHILD
An in-depth study regarding the process of gathering information as a way to support children’s development, facilitate child-centered curriculum planning, and design effective learning environments for young children in a variety of early childhood settings including completing an Ages and Stages Questionnaire, an Early Childhood Environmental Rating Scale, and an individualized Portfolio highlighting multiple methods of assessment and evaluation techniques. The importance of the “crosswalk” between developmental milestones and Oklahoma’s Early Learning Guidelines (ELGs) is emphasized. The Oklahoma ELG’s, infants, Toddlers, Twos and Young Children Three to Five are incorporated in course content. Four (4) clock hours of supervised fieldwork experience must be completed at the OSU-OKC Child Development Lab School. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a “C” or higher in this course.

ECCD 1320 (1-4) 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 2103 PLAY, DAP, AND CURRICULUM DEVELOPMENT
An exploration into the theory of play, the developmental stages of play, and how play impacts a young child’s growth, development, and memories. Students design and implement environments that foster children’s play. Encouraging learning through play, students also develop and apply child-centered, developmentally appropriate curriculum to encourage learning through play. Students explore various methods used to develop lesson plans. Included is the importance of the valuable learning process through play in areas such as music, art, blocks, emerging the literacy, mathematicians: as well as mud, sand, and water. The Oklahoma Early Learning Guidelines (ELG’s) are incorporated into course content. Four (4) clock hours of supervised fieldwork experience must be completed at the OSU-OKC Child Development Lab School. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a grade of “C” or better in this course.

ECCD 2113 CHILD DEVELOPMENT
A study of prenental 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) are incorporated in the course content. Twenty-Five (25) clock hours of supervised fieldwork experience must be completed at the OSU-OKC Child Development Lab School. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a grade of “C” or higher in this course.

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/family and community are all covered within this course. Student will also explore methods of effectively interacting with families of diverse cultures. Two (2) clock hours of fieldwork experience must be completed by attending a session at an instructor approved family court site. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a “C” or higher in this course.

ECCD 2123 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) are incorporated in the course content. Twenty-Five (25) clock hours of supervised fieldwork experience must be completed at the OSU-OKC Child Development Lab School. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a grade of “C” or higher in this course.

ECCD 2143 LANGUAGE DEVELOPMENT & EMERGING LITERATURE
A study of the theory, materials, methods, and instructional techniques applicable to language and cognitive development and emergent literacy experiences during the early childhood years—birth through age eight with emphasis given to birth-3 years. This course examines developmentally appropriate, integrated and interdisciplinary language arts approaches to literacy development encompassing writing, reading, and oral language of young children in the home, early care, and school environments. One (1) clock hour of fieldwork experience must be completed. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a grade of “C” or better in this course. Prerequisite: ECCD 1101

ECCD 2153 SOCIAL AND EMOTIONAL DEVELOPMENT IN INFANTS AND TODDLERS
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. One (1) clock hour of supervised fieldwork experience must be completed at the OSU-OKC Child Development Lab School. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a “C” or higher in this course.

ECCD 2163 PHYSICAL DEVELOPMENT AND CREATIVE EXPRESSIONS
Focuses on creativity, play, and motor development with developmentally appropriate creative experiences in play, music, art and motor skills for children, birth to three years. Physical development prenatal to three years is emphasized. One (1) clock hour of supervised fieldwork experience must be completed at the OSU-OKC Child Development Lab School. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a “C” or higher in this course.

ECCD 2213 INCLUSION IN EARLY CARE EDUCATION
A study of inclusion within the Early Care Education program: environment, curriculum and interactions with family members while serving children with varying physical, emotional, developmental and behavioral needs. Students will study the various characteristics of physical and mental disabilities, while exploring characteristics of diverse needs of young children. Individualized Education Plans (IEP) and Individualized Family Service Plans (IFSP) and Points of Inclusion are also covered. Two (2) clock hours of supervised directed field experience assignments must be completed at an instructor approved, early care education site whose enrollment includes a substantial percentage of children with special needs. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a “C” or higher in this course.

ECCD 2233 CHILD GUIDANCE, BEHAVIOR AND CLASSROOM MANAGEMENT
Students are provided with solid child guidance theories reinforced with positive strategies that increase their understanding of the child behavior and guidance process. Students gain knowledge in developmentally appropriate child guidance, different caregiving styles, specific positive discipline strategies and managing the physical environment effectively. Special topics in child guidance are covered including children and stress, understanding and management of guiding children expressing anger and aggression. The Oklahoma Early Learning Guidelines (ELG’s) are incorporated into the class. Twenty-one (21) clock hours of supervised fieldwork experience assignments must be completed at the OSU-OKC Child Development Lab School. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a “C” or higher in this course.

ECCD 2233 BUDGET DEVELOPMENT & RISK MANAGEMENT
Designed to acquaint students with methods of budget planning, development and fiscal control for early care education facility operations including family child care homes. Students become acquainted with the child care trilemma, OKDHS child care subsidy program, per child cost, year-end statements, tax reporting, and liability risk management. Students explore and develop facility utilization factors, annual budgets, monthly budgets, break-even charts, cash flow projections, and salary compensation scales. Students discuss effective fundraising and financial software designed for child care facilities. Staffing Patterns and efficient staff scheduling are also covered. This course requires no supervised fieldwork experience. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a grade of “C” or better in this course. Prerequisites: ECCD 1101, 1113. Option for Concurrency: Yes.
ECCD 2412 PRACTICUM
Practicum consists of student directed and instructor directed experiential learning through fieldwork experience, aka clinical hours, and guided situational role-plays. Students earning an AAS in Early Care Education are required to complete one hundred and twenty-five (125) clock hours of supervised fieldwork experience throughout the duration of ECCD coursework. Students successfully completing OSU-OKC ECCD courses will have accumulated clock hours of required fieldwork experience as designated by each course description. The practicum course provides students the format to complete remaining clock hours of fieldwork experience to total 125 hours as dictated by their transcript of OSU-OKC transcript of ECCD courses. Students earning a Certificate of Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a “C” or higher in this course.

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’ knowledge and skill while applying the Oklahoma early childhood core competencies, administrative leadership competencies, and organization of thought and use of good judgment in accordance with NAEYC Code of Ethical Conduct as exhibited in a variety of role-playing exercises. The Oklahoma Early Learning Guidelines (ELG’s) are incorporated into the course. Student must complete with 80% satisfaction, the multi-component Early Childhood Exam. This three credit hour class includes eight (8) clock hours of required lab time in the form of the Final Assessment Process held on a Saturday. Students earning a Certificate or Mastery or Associate of Applied Science degree in the OSU-OKC Early Care and Child Development program must earn a “C” or higher in this course.

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. Prerequisites: [R] [W] and ICSM 0104.

ECON 2033 INTRODUCTION TO MACROECONOMICS
A study of the functioning and current problems of the aggregate economy; determination and analysis of rational income, employment, inflation and stabilization monetary and fiscal policy and aspects of international interdependence. Prerequisites: [R] [W] and ICSM 0104.

ELECTRICAL POWER TECHNOLOGY

EPT 1103 PRINT READING
This course gives students an introduction to the different schematics used in power plant operations and electrical transmission and distribution systems. Students will gain an understanding of the standard symbols used in the various systems schematics and how to read them. Students learn how to read basic piping and instrumentation diagrams, and how to interpret single line electrical diagrams. Students finish the course by studying electrical system diagrams beginning at the generator and following through to the distribution system.

EPT 1123 ELECTRICAL SYSTEMS COMPONENTS
This course takes an in-depth look into the components used in the transmission of electricity. Students begin with a study of switchyards and substations, and then learn the operation of transformers, circuit breakers, regulators, capacitor banks, battery banks, tap changers, disconnects, current and potential transformers and lightning arrestors. Students also study the various types of electrical conductors, structures and insulators used in the transmission of electricity. Finally, students learn the components, which make up a typical substation and how it feeds a distribution network that supplies customers with electricity.

EPT 2063 ELECTRICAL SYSTEMS PROTECTION
This course covers protection fundamentals, philosophies and principles used to protect the electrical system, beginning with the generator itself. Various types of relays, input sources and system grounding are also covered.

EPT 2113 SUBSTATION RELAYS
This course focuses on testing and calibrating substation equipment, including voltage testing on equipment feeder relays and circuit breaker relays. Students also learn the various tests that need to be conducted on protective relays, such as over current and voltage relays, directional and line relays as well as ground and test device testing.

EPT 2133 FUNDAMENTALS OF METERING
This course introduces students to the fundamentals of metering, such as terminology and basic principles of meters. Students learn basic math needed in metering and review of basic electricity and magnetic principles. The students are introduced to meter testing equipment, meter diagrams and standards and learn technical data and how to read watt hours and demand meters.

EPT 2313 SUBSTATION OPERATIONS
This course will detail the specifics of power electronics as applied in substations for power transmission. It will describe typical functions provided in utility substation automation systems and some important considerations in the interface between substations equipment and the automation systems components. Student will look at the operation in a competitive environment. Oil containment, animal issues and security will also be discussed and the requirements necessary to qualify a substation to withstand seismic events. The operation of substation fire protections and substation communications systems such as the SCADA system and the SCADA security will be examined.

EPT 2333 SINGLE/POLYPHASE METERING
Metering single and polyphase metering including meter design, adjustments, compensations and applications will be studied in this course. Power factor analyzers, high amperage CT cabinets, meter demand theory, demand registers, and testing and maintenance of thermal demands will also be studied. Prerequisite: EPT 2133

EPT 2403 ADVANCED ELECTRICAL SYSTEMS
The design and operation of an electrical system including an understanding of switchyard construction and the different configurations, and how different sections of the transmission and distribution systems can be safely isolated will be studied. The course will review how storm and conditions can affect the electrical system. The students will learn the procedures used by systems operators and line crews to maintain safe and effective delivery of power during adverse conditions and steps necessary to restore power after outages.

EPT 2503 TRANSFORMERS
This course begins with a review of basic transformer design and operation. Students will study 3-phase transformers, single phase loads for 3-phase transformers, and the different connections used with such transformers. The course introduces students to installation procedures and maintenance procedures for transformers. Lab 2 hours per week.

EPT 2513 SUBSTATION CONSTRUCTION AND MAINTENANCE
The basic construction techniques of a substation, including electrical equipment rigging and installation, cable tray and conduit installation, cable controls and panel wiring, as well as a wide variety of installation procedures for electrical components and protection equipment. Basic hand and power tools required to build the substation will be reviewed in addition to safety procedures. Lab 2 hours per week.

EPT 2533 ADVANCED METERING TECHNIQUES
This course will introduce students to various metering system designs and application options. The student will study the metering system components, associated wiring configurations and instrument transformer variations. Topics will include ratio, burden, and correction factor calculations; functional testing, and calibration procedures as well as safe installation procedures. Also included are cogeneration metering, and principles of load management and associated equipment. Lab 2 hours per week. Prerequisite: EPT 2133.
EPT 2603 CAPSTONE/ADVANCED TECHNIQUES/PROBLEMS
This course will include topics that have not been covered in the previous courses and will include interview skills, evaluation of the job market and employment opportunities. This course will normally be taken in the student’s last semester.

ELECTRONICS ENGINEERING

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.

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 1320 (1-4) TECHNICAL PROBLEMS ELECTRONICS
One to four, maximum six credits. Technical problems in electronics that are of particular interest to technicians. Prerequisite: Department Head Approval

EET 2050 (1-4) 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. Prerequisite: EET 1102

EET 2234 ANALOG AND DIGITAL SYSTEMS
The course studies basic numbering systems, Boolean algebra, logic circuits and systems, pulse circuits and pulse logic systems as applied to computer and microprocessor technology, ADC, DAC, and operational amplifiers. The course also includes closed loop system analysis and PID control theory to show how a digital device can control an analog system. Prerequisite: EET 1102

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. Prerequisite: EET 2373

EET 2373 DIGITAL LOGIC ANALYSIS
A study of the 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 2454 ELECTRONIC COMPUTERS
The methods of using electronic circuits to perform computations, the elements of digital computers and the organization of these elements in a functioning computer. Lab: two hours per week. Prerequisite: EET 2573

EET 2643 OPERATIONAL AMPLIFIERS
A study of operational amplifiers, their characteristics and their 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 2650 (1-4) 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: Department Head Approval

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 MICROPROCESSOR FUNDAMENTALS
A study of microprocessor operation, architecture, instruction sets, interfacing with operating systems, and applications in control, data acquisition, and data reduction and analysis. Students will write programs and test them. 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

EMSP 1143 EMS OPERATIONS
The student will summarize and interpret legal responsibilities of safe ambulance operations in Oklahoma; evaluate psychological and physical factors affecting safe emergency vehicle operations. The student will discuss medical incident command, hazardous materials incidents, crime scene awareness, rescue awareness, helicopter operations, critical care transport and usage, trauma triage guidelines, and medical operations. The student will understand techniques for gaining access to the patient, disentanglement, patient movement, and preparation for transport; and recognize situations posing threats to patients, EMT’s or bystanders and describe correct management situations. The student will also be able to demonstrate and understand the essential concepts of Crew Resource Management. Successful completion of EMSP 1148 is also required in order to sit for the National Registry of EMTs cognitive and psychomotor exams.

EMSP 1148 EMERGENCY MEDICAL TECHNICIAN
This course is designed to prepare students to enter the prehospital emergency medical services field and provide basic life support. This course meets or exceeds the requirements of the National Emergency Medical Services Education Standards as well as the recommended training hours provided by the Oklahoma State Department of Health. Curriculum includes over 144 hours of classroom lectures and hands-on skills as well as at least 60 hours of field and clinical internship experiences. Advisor Approval Required.

EMSP 1234 PHARMACOLOGY
This course is designed to introduce students to the principals of pharmacology, medication administration, medication classes, and utilization of emergency medications. The student will demonstrate comprehensive understanding of pharmacokinetics, pharmacodynamics, routes of administration, indications, contraindications, dosage and the ability to apply knowledge to determine the appropriate management within the paramedic scope of practice. Prerequisite: BIOL 1515

EMSP 1246 PARAMEDIC CARE I
This course will prepare the paramedic student for general physical assessment, a deeper understanding of physiology and pathophysiology as well as an introduction to advanced airway management and ventilation therapy. It will include clinical time in an emergency department, ambulance
and geriatric center. It is designed to cover the well-being of paramedics, their roles and responsibilities, injury and illness prevention, medical/legal issues, ethics, therapeutic communications and life span development. Discussion and review of medical mathematics, history taking, and techniques of physical examination, patient assessment, clinical decision making, communications, and documentation is included. Upon successful completion of this course the paramedic student will also be able to define normal cellular physiology, how cells respond and change to injury, geriatrics and other causes of disease, self-defense mechanisms, inflammation, and variances of immunity stress and disease. Prerequisite: EMSP 1148 (EMT), Department Head Approval. Co-Requisite: BIOL 1515.

EMSP 1263 ECG INTERPRETATION
This course introduces the student to the basics of dysrhythmia interpretation, performance and interpretation of twelve lead ECG to allow the Paramedic 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. Co-requisite: BIOL 1515.

EMSP 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 spend clinical time in the following areas; ambulance, emergency department, psychiatric unit, trauma ICU, operating room, and respiratory therapy. Prerequisite: EMSP 1246.

EMSP 2549 PARAMEDIC CARE III
This course will allow the paramedic student to complete their initial EMS training. The student will complete their Paramedic Internship at a local EMS agency. The student will be required to successfully complete their internship with a minimum of 50 “Team Leads” during 911 Emergencies. The student will also expand on their pathophysiology knowledge in the areas of labor and delivery, pediatrics, Pediatric Advanced Life Support, geriatrics, and other special patient populations. The student will complete clinical time in the following areas: ambulance, pediatric emergency department, pediatric ICU, labor and delivery, as well as complete a final ‘Gatekeeper’ shift with EMS Program’s Medical Director. At the conclusion of this course, the student will be able to sit for both the National Registry of EMT written and Practical exams. Prerequisite: EMSP 2549.

ENGLISH

ENGL 1013 INTERNATIONAL FRESHMAN COMPOSITION I
Restricted to students whose native language is not English. 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. May be substituted for ENGL 1113. Prerequisites: [R] [W], may be substituted with ENGL 1113.

ENGL 1033 INTERNATIONAL FRESHMAN COMPOSITION II
Restricted to students whose native language is not English. 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. May be substituted for ENGL 1213. Prerequisite: ENGL 1013 or ENGL 1113.

ENGL 1113 ENGLISH COMPOSITION I
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. Prerequisites: [R] [W].

ENGL 1213 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 2050 (1-6) SPECIAL TOPICS IN ENGLISH (H)
Special topics with variable credit 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 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.

**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 WORLD LITERATURE I (H)**

A survey of major American writers and literary movements from the colonial period to the Civil War. Prerequisite: ENGL 1113.

**ENGL 2893 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.

**FIRE PROTECTION**

**FIRE 1712 PHYSICAL FITNESS FOR FIREFIGHTERS**

This course will provide students with the physical fitness knowledge and skills required for the entry level training as a firefighter. Students will learn about firefighter health and wellness topics and be provided information about the typical entry-level firefighter candidate testing processes. This course meets the prerequisite requirement of the National Fire Protection Association (NFPA) 1001 standard for Fire Fighter Professional Qualifications for persons entering a Firefighter I training program.

**FIRE 1721 EMERGENCY VEHICLE OPERATIONS**

This course introduces fire and emergency medical services personnel to the topics of law and liabilities, preventative maintenance, emergency response considerations, crash and injury prevention and safe driving techniques. This course meets the Department of Transportation standards.

**FIRE 1727 FIREFIGHTER I**

Prepares students to the level of Firefighter I as defined by the National Fire Protection Association (NFPA) 1001 Standard for Fire Fighter Professional Qualifications. Students completing the course with a grade of “C” or better will be eligible for certification by the International Fire Service Accreditation Congress (IFSAC) and Oklahoma Fire Service Training (FST) as Firefighter I. Live fire training and certification testing will be conducted by Fire Service Training in Stillwater, Oklahoma. Student must complete and pass FIRE 1733 Hazardous Materials & Firefighter II (FIRE 1733) before certification of Firefighter I is granted by IFSAC and FST. Lab: 3 hours per week. Medical release from a physician is required.

**FIRE 1733 HAZARDOUS MATERIALS & FIREFIGHTER II**

Hazardous Materials & Firefighter II is an advanced course that is designed to build upon the knowledge acquired by the student from completing the FF I course. This course provides the student with more knowledge of fire ground and hazardous materials situations to allow them to make basic evaluations of safety problems and assume leadership roles when carrying out emergency response operations. Prerequisite: FIRE 1727

**FIRE 2050 (1-4) ADVANCED TECHNICAL PROBLEMS IN FIRE PROTECTION**

One to four, maximum six credits. Technical problems in fire protection that are of particular interest to the fire service professional.

**FIRE 2303 PUMPING DRIVER/OPERATOR**

This course will provide the student with the knowledge of general principles of pump operations, along with practical application of those principles in an emergency situation. Students will gain the requisite knowledge of safe driving techniques, fire pump theory and operation, hydraulic calculations, water shuttle, apparatus maintenance and apparatus positioning to maximize efficiency and water supply. Prerequisite: FIRE 1733

**FIRE 2343 FIRE PREVENTION AND LIFE SAFETY**

The student will acquire an understanding of fire prevention and life safety, its importance in risk-reduction, and how to deliver fire and life safety presentations at the shift level to the diverse populations normally found within a community. Prerequisite: FIRE 1733

**FIRE 2353 STRATEGY AND TACTICS**

This course is a study of the principles and methods of various emergency scene command operations. This course will include simple and complex incident command operations. Students will participate in scenario based exercises to practice the initial command operations and learn to expand the command structure as the incident grows. Prerequisite: FIRE 1733

**FIRE 2383 INSPECTION PRACTICES AND FIRE SCENE PRESERVATION**

This course will provide the student with additional knowledge of fire protection systems. Students will gain the requisite knowledge of fire protection systems as referenced in the National Fire Protection Association (NFPA) 1031 and 1033 standards at the Fire Inspector I and Fire Investigator levels. Prerequisite: FIRE 1733

**FIRE 2393 FIREFIGHTER OCCUPATIONAL SAFETY, HEALTH AND WELLNESS**

The student will acquire an understanding of adhering to an organization’s safety and health policies, maintaining a healthy lifestyle, the need to correct unsafe behavior, and addressing issues related to cancer and suicide prevention within the fire service. Prerequisite: FIRE 1733

**FIRE 2650 (1-6) TECHNICAL PROJECTS IN FIRE PROTECTION**

One to six, maximum six credits. A study of problems in fire protection that are of particular interest to the fire service professional.

**FIRE 2703 FIRE PROTECTION CAPSTONE**

This course will place the non-fire department employed, fire protection student with various metropolitan fire departments to participate in day-to-day activities and emergency response operations. All students will participate in a writing intensive, assessment-based course. The written assignments will present the student with thought provoking issues occurring in today’s fire service in order for the student to demonstrate critical thinking, problem solving and communication skills in the application of knowledge acquired in the fire protection degree program. Prerequisites: FIRE 1703, 1721, 2122, 2143

**GENERAL TECHNOLOGY**

**GENT 1103 PRINT READING**

This course gives students an introduction to the different schematics used in electrical and mechanical systems. Students will gain an understanding of the standard symbols used in the various systems schematics and how to read them. Students learn how to read basic piping and instrumentation diagrams, and how to interpret single line electrical diagrams.

**GENT 1112 TOOLS, TECHNOLOGY, AND EQUIPMENT FOR TECHNICIANS**

An introduction into the use of tools and equipment used in industrial processes. Topics include the use of meters, gauges, transducers, and thermometers. A review of the scientific principles to control a process’ temperature, pressure and fluid flow will be studied. Plus, calibration concepts and techniques of instrumentation will be introduced.
GENT 1113 ESSENTIALS OF MECHANICAL AND ARCHITECTURAL DRAFTING
A survey of mechanical and architectural drafting conventions and practices in business and industry. Development of fundamental drafting skills and techniques instrumental to the interpretation and utilization of graphic media and engineering drawings in effective technological communications.

GENT 1123 TEAM WORK AND PROBLEM SOLVING
The course will study team concepts and problem solving techniques to assist project teams in improving quality and productivity by providing knowledge of how to form and work as a team; plan and conduct good meetings; manage logistics and details; gather useful data, and communicate the results to implement changes.

GENT 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. Pre/Corequisite: MATH 1483

GENT 1143 COMPUTATIONS FOR TECHNICIANS
This course studies number systems, dimensional analysis, Boolean algebra, exponential, logarithmic, trigonometric functions and systems of equations used by industrial technicians. It uses spreadsheets, Matlab or equivalent software to solve a variety of problems in introductory engineering analysis: such as graphing data, unit conversions, simple statistical analysis, sorting, searching and analyzing data, curve fitting, interpolation, solving algebraic equations, logical decisions, comparing economic alternatives, and finding optimum solutions. The acquisition and processing of data are also covered. Prerequisites: MATH 1483

GENT 1153 INTRODUCTION TO MECHATRONICS/MECHANICAL SYSTEMS
An introductory course in the theory and operation of Mechatronics and Mechanical systems. The course presents foundational concepts in mechatronics including analog and digital electronic sensors, actuators, microprocessors, and microprocessors interfacing to electromechanical systems. Components and measurement equipment used in the design, installation, and repair of mechatronic equipment and circuits are studied. Pre/Corequisite: Math 1483

GENT 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.

GENT 1320 (1-6) TECHNOLOGICAL PROBLEMS
One to six credits. A study of problems in the field of applied technology that are of particular interest to currently employed technicians. Prerequisite: Instructor and Advisor Approval (Offered on demand)

GENT 1513 BASIC ELECTRICAL CODE AND INSPECTION
This course is a study of the basic principles of electrical circuits, motors and generators as well as basic wiring principles based on the National Electrical Code. Also included is a survey of the provisions and requirements of all electrical devices and circuits, which are covered in the National Electrical Code. (Offered on demand)

GENT 2050 (1-6) ADVANCED TECHNOLOGICAL PROBLEMS
One to six credits. A study of problems in applied engineering science that are of particular interest to the engineering technician. (Offered on demand)

GENT 2223 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.

GENT 2313 HYDRAULICS AND MECHANICAL SYSTEMS
An introduction to operation and maintenance of the mechanical and hydraulic systems.

GENT 2323 STATICS
Force, distributed forces, reactions, free body diagrams, friction, internal forces and moments of inertia. Applications are emphasized. Prerequisites: PHYS 1114 and MATH 1613 (Fall and Spring Only)

GENT 2353 FLUID MECHANICS
This course is an introduction into fluid mechanics. It studies the properties of fluids and fluid flow, Bernoulli’s theorem, measuring devices, viscosity, and dimensional analysis. It emphasizes pumps, piping, and fluid motors. Prerequisites: GENT 2313

GENT 2543 PROGRAMMABLE LOGIC CONTROLLERS
This course teaches the student an overview of the selection, programming, operation, and capabilities/limitations of programmable logic controllers.

GENT 2600 (1-6) INTERNSHiP
This course provides on the job training for students. Work experience may be substituted if the student is currently working in the industry. Prerequisite: Advisor approval

GENT 2650 (1-4) TECHNICAL PROJECTS
A project will be approved by the instructor for the students to design, build and demonstrate their knowledge of the program. A comprehensive written report of the work accomplished will be prepared that demonstrates the collected knowledge, skills, and techniques acquired in the program of study. It also includes basic numbering systems, Boolean algebra, logic circuits and systems, pulse circuits and pulse logic systems as applied to computer and microprocessor technology demonstrate problem solving, critical thinking, research techniques, technical writing, and team dynamics to help round out the student’s education. Prerequisites: Department Head Approval

GEOGRAPHY

GEOG 2253 WORLD REGIONAL GEOGRAPHY (I)
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 1320 GRAPHIC EDITING: ADOBE PHOTOSHOP
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 TECHNOLOGIES AND TOOLS
Introduction to technologies of the world wide web. Course uses a hands on approach to teach the capabilities of the internet, uses of Social Media and trans. Students learn the resources available via the World Wide Web for business use, personal use and to evaluate the validity of websites. Prerequisite: [R]

*GDD 1253 GRAPHIC EDITING: ADOBE PHOTOSHOP
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 1333 ELECTRONIC PUBLISHING: ADOBE INDESIGN 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: ADOBE ILLUSTRATOR**
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 DIGITAL MARKETING AND SOCIAL MEDIA**
Understanding Social Media and its impact on business marketing effort is vital in today’s world. This course explores the visual and theoretical challenges that working with Social Media platforms pose and investigates how to leverage these platforms and tools. Prerequisite: [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: GDD 1313 and GDD 2033

**GDD 2133 ADVANCED WEB PAGE DESIGN**
This course covers multi-level navigation strategies, cascading style sheets and scripting languages. Prerequisites: 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. Prerequisites: 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 2250 (1-6) TECHNICAL PROBLEMS IN TECHNICAL COMMUNICATIONS**
One to four credits. Technical problems of particular interest to the technical writing student. Prerequisite: Department Head Approval

**GDD 2263 DIGITAL PHOTOGRAPHY**
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)

**GDD 2273 DIGITAL VIDEO: ADOBE PREMIERE**
Advanced course in digital media and imaging. Course covers advanced image editing and software features. Prerequisite: GDD 2263 (Spring only)

**GDD 2303 ELECTRONIC PUBLISHING: ADOBE INDESIGN II**
Desktop Publishing II will present a more detailed review of the desktop publishing concept, proper equipment and software. Also included will be concentration on design and layout of graphic, text and pictorial subject matter. Prerequisite: GDD 1335

**GDD 2323 MULTIMEDIA COMPUTING**
Introductory course in multimedia design and implementation. Course explores the design principles and theory involved in multimedia presentation. Student will design and present application. Prerequisite: [R]

**GDD 2343 WINDOWS INTERNET INFORMATION SERVER**
This course gives Windows NT administrators and Web masters a sound knowledge base for administering and managing Microsoft Internet Information Server. Internet Information Server is the software used to manage a Web site under Windows NT. Participants work through installation, configuration and system management. This three credit-hour course uses a combination of lectures, demonstrations, discussions, online assignments and hands-on labs. Prerequisite: ITD 2213

**GDD 2423 ADVANCED MULTIMEDIA**
Advanced course in computer-based multimedia interactive design. Integrates multimedia authoring, web design and presentation graphics in multimedia project development. Emphasis is on user friendly applications, utilization of digital video and audio and presentation to the Web. Prerequisite: GDD 2323 (Fall only)

**GDD 2433 WEB ADMINISTRATION**
This course covers the planning and implementation process involved in setting up a Web site and its maintenance. Topics include selecting Web server software and hardware, installing and configuring a server and administering the server on an ongoing basis. Prerequisites: ITD 1323 and GDD 2033 (Spring only)

**GDD 2653 PROJECTS - TECHNICAL COMMUNICATIONS**
The student with the instructor's permission will select an in-depth project in technical communications. The student will present to the instructor a paper outlining the proposed project and objectives to be met in completing the project. Prerequisite: Department Head Approval

**GDD 2823 CAPSTONE**
The final culmination of the program of study. The student will demonstrate the collected knowledge, skills and techniques acquired in the program courses by working through scenarios. Prerequisite: Department Head Approval

### HEALTHCARE MANAGEMENT

**HCM 1143 HEALTHCARE SYSTEMS/OPERATIONS**
An overview of healthcare 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 healthcare delivery.

**HCM 1153 MEDICOLEGAL PRINCIPLES AND ETHICAL ISSUES**
This course will review local, state and federal legislation as it relates to healthcare 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 HEALTHCARE CODING/BILLING II**
This course covers procedural coding guidelines for the icd-9-cm classifications, cpt coding, evaluation and management, primary care, anesthesia/gynecology, 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 1193 HEALTHCARE CODING/BILLING II**
This course is designed to provide advanced practice in healthcare coding, and can serve as a test prep for the national certification exam for coding professionals (CPC). Prerequisite: HCM 1183

**HCM 2163 HEALTHCARE MANAGEMENT**
An introduction to Emergency Medical Services and Healthcare Management focusing on human resources, organizational structures, medico-legal issues, contracts/agreements, risk management, deployment/staffing and policies and procedures.
HCM 2173 HEALTHCARE 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 healthcare managers is also included. Prerequisite: HCM 2163

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

HCM 2193 HEALTHCARE PROVIDER RELATIONSHIPS
This course deals with the problems of management of the small working unit (division, department, section, etc.) within a larger healthcare 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 healthcare system/agency to support role development consistent with the student’s career goals and work experience.) Prerequisites: HCM 2163, HCM 2173 and HCM 1143

HISTORY

HIST 1483 U.S. HISTORY TO 1865
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
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]

HIST 2123 AFRICAN AMERICAN HISTORY (S)
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]

HIST 2323 OKLAHOMA HISTORY (S)
Development of the state of Oklahoma from prehistory to present. Among the material relating to Oklahoma to be covered are the geography and geology, prehistoric cultures, Native American heritage, Civil War, Cimarron Territory, Indian Territory, Oklahoma Territory, statehood, development of political institutions, ethnic diversity, economic development, politics and other aspects contributing to the formation of the state. The course satisfies the Oklahoma State Department of Education requirement for teacher certification. Prerequisites: [R] [W]

HIST 2450 (1-6) SPECIAL TOPICS (S)
One to six credits, six credits maximum. Variable course credit of one to six hours. Examines contemporary issues and topics within history. This course may be cross-listed with other technical special topics sections. Prerequisites: [R] [W]

HIST 2463 NATIVE AMERICAN HISTORY (S)
This course provides a comprehensive examination of the history of North American Native Americans indigenous to what is now the United States. Topics such as languages, religious beliefs, family structures, political structures, economic systems, and military history will be covered. Prerequisites: [R] [W]

HIST 2513 WORLD HISTORY TO 1500 (S)
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]

HIST 2533 WORLD HISTORY SINCE 1500 (S)
An overview of world history from the end of the European Middle Ages to the modern era. Emphasis is on major political, military, intellectual, and religious events and movements that have shaped world history. Prerequisites: [R] [W]

Horticulture fundamentals course covering the characteristics of and uses for horticultural plants, plant growth principles and plant care practices, the scope of the horticulture industry, basics in plant propagation, landscape plant maintenance, fruit and vegetable gardening and pest control. Lab Included. Prerequisites: [R] and ICSW 0033

HRT 1013 PRINCIPLES OF HORTICULTURE (L,N)
Horticulture fundamentals course covering the characteristics of and uses for horticultural plants, plant growth principles and plant care practices, the scope of the horticulture industry, basics in plant propagation, landscape plant maintenance, fruit and vegetable gardening and pest control. Lab Included. Prerequisites: [R] and ICSW 0033

HRT 1023 SUSTAINABLE HORTICULTURAL PRACTICES
This course will provide a basic knowledge of the principles and practices of sustainable horticultural management systems. The class will review soil biological processes, pest management, and production systems. The course will also include studies of alternative farming systems, organic agriculture and National Organic Program (NOP) certification. Study of specific applications of sustainable production such as vegetables, fruits and ornamentals will also be included. Lab Included. Prerequisite: HRT 1013

HRT 1103 LANDSCAPE GRAPHICS AND DESIGN THEORY
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

HRT 1123 HOME GARDENING - FRUITS AND VEGETABLES
Emphasis is placed on fruits and vegetables to be grown in a home garden. Cultural and environmental problems associated with each fruit or vegetable crop to be studied. Lab Included. Prerequisites: [R] and ICSW 0033 (Spring only)

HRT 1133 ADVANCED LANDSCAPE GRAPHICS
Advanced drafting and illustration techniques for landscape designs, focusing on presentation drawings in both black and white and color formats. Application of graphic techniques to more complex plans, drawings and programs. Introduction to electronic media and blending of electronic and hand drawn graphics. Lab Included. Prerequisite: HRT1103

HRT 1151 INTRODUCTION TO FLORAL DESIGN
Students will experience care and handling of fresh flowers and plants; customer care and sales; and principles and elements of basic flower design. Lab Included. Additional $100 lab fee
HRT 1163 BILINGUAL HORTICULTURE COMMUNICATIONS
This course is designed to assist supervisors and employees within the horticulture industry with the Spanish/English language transition and to gain better understanding of contemporary Hispanic culture. Emphasis will be placed on translating and then properly speaking horticulture terminology in Spanish while addressing cultural and communication issues. The linkages and implications of these issues will be examined as they apply to successfully managing and understanding a diversified work force. Prerequisites: [R] and ICSW 0033 (Spring only)

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. Pre/Corequisite: HRT 1013 (Fall only)

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. Pre/Corequisite: HRT 1013 (Spring only)

HRT 1220 (1-6) TECHNICAL PROBLEMS - HORTICULTURE
One to six credits, six credits maximum. Technical problems in horticulture that are of particular interest to horticulture majors. Prerequisite: Advisor Approval

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. Pre/Corequisite: HRT 1013 (Spring only)

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 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 (Spring only)

HRT 2023 HORTICULTURAL SOIL SCIENCE
The study of principal physical, chemical and biological properties of the soil as related to horticultural plant growth. Subjects covered include soil testing and fertilizer usage, formation and classification of soils, rural and urban land use. Course work covers the basic chemistry and math related to soil science. Lab Included. Prerequisite: HRT 1013 (Spring only)

HRT 2050 (1-6) 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: Advisor Approval

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 (Fall only)

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 (Fall only)

HRT 2123 LANDSCAPE DESIGN THEORY
The propagation, production, management and marketing of commercial nursery stock including facilities, equipment, supplies, environmental and pest control. Lab Included. Prerequisite: HRT 1013 (Fall only)

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 (Fall only)

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 1103 (Spring only)

HRT 2153 ADVANCED FLORAL DESIGN
Students will get indepth, hands-on experience and coaching on contemporary and everyday design, sympathy, hand-tied bouquets, wedding and event design, and flowers to wear and carry. Principles of selling, pricing and budgeting learned in the introductory class will be used in this course for event planning. Advanced skill development will be encouraged. Lab Included. Additional $100 lab fee. Prerequisite: HRT 1151

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 (Spring only)

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. Pre/Corequisite: HRT 1013 (Fall only)

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, decking, 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. Prerequisite: [R] and ICSW 0033 (Fall only)

HRT 2251 STYLES AND TRENDS IN FLORAL DESIGN
Students will experience advanced design techniques to include tropical flower design and foliage weaving. Public speaking and presentation of completed floral design is incorporated into the course. Lab Included. Additional $100 lab fee. Prerequisite: HRT 2153

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 (Fall only)
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. Lab included. Prerequisite: HRT 1013 (Fall only)

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 (Fall only)

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 (Fall only)

*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.

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 (Spring only)

HRT 2453 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 (Spring only)

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, along with an introduction to the interiordesign industry. Lab and field trips are included. Lab Included. Prerequisite: HRT 1013 or Department Head Approval (Fall only)

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 (Spring only on odd years)

HRT 2650 (1-6) HORTICULTURE INTERNSHIP
One to four hours credit, six credits maximum. 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: Sophomore Standing and Advisor Approval

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. Prerequisite: HRT 1843 (Spring only)

HRT 2933 HORTICULTURE CAPSTONE
The 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. Prerequisites: Sophomore and Advisor Approval

HUMANITIES

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

HUMN 2050 (1-6) SEMINAR IN HUMANITIES (H)
A study of variable topics in Humanities. May be repeated with different topics. Prerequisite: 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. Prerequisite: [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 the student for an Information Technology industry recognized certification exam. Prerequisite: [R]
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 1103

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, cloud computing concepts, 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 forensic tools, file systems, data recovery and collection, and sample case evaluations. Prerequisite: [R]

ITD 1613 AWS ACADEMY CLOUD FOUNDATIONS
This course provides the student with an overall understanding of cloud computing concepts, independent of specific technical roles. It provides a detailed overview of cloud concepts, core services, security, architecture, pricing and support. Prerequisite: [R]

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. Prerequisite: ITD 1543 (Fall Only)

ITD 2163: CYBER ETHICS AND LAW
This course introduces students to US Federal laws and regulations related to computers and technology. Students will also examine impacts of issues in the use of computer technology in organizational environments and be introduced to professional codes of ethics and standards within the technology professions. Prerequisites: [R] [W]

ITD 2173: COMPUTER FORENSICS & INCIDENT RESPONSE
Presents the ethical and social issues related to computer technology. 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 (Corequisite: ITD 2801 (Spring Only))

ITD 2193 TECHNICAL SUPPORT COMMUNICATIONS
This course provides students with the skills to provide technical support to users, including troubleshooting and problem solving, successful communication with users, determining a client’s specific needs, and training end users. With a balance of both people skills and technical skills this course is an excellent resource for students who are preparing for careers in technical occupations. 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. Prerequisites: [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 window clients, 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 1533

*ITD 2240 (1-4) COOPERATIVE PRACTICE
One to four credits. Under supervision of the college and the employer, students combine classroom learning with career-related work experience. Prerequisite: Department Head Approval

*ITD 2213 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. Prerequisite: ITD 2213 (Fall Only)

*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 Cisco networking technology. The course covers switches, routers, basic mitigation of security threats, introduction to wireless networking concepts and terminology. In addition, the course includes managing Cisco network devices with the latest IOS, Cisco Licensing, and extensive troubleshooting. Course prepares students to take the Cisco Certified Entry Networking Technician (CCENT) and/or the Cisco Certified Network Associate (CCNA) Routing and Switching certification exams. Prerequisite: ITD 2623 or CompTIA NetWork + certification (Spring Only)

*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 2513 AWS ACADEMY CLOUD COMPUTING ARCHITECTURE
The course is designed to help students develop technical expertise in cloud computing and prepare them for an Information Technology industry recognized certification exam. Prerequisite: ITD 1615

*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 tools and understand 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
This 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 neces-
ICRW 0035 COLLEGE READING AND WRITING I
This course introduces the critical reading and writing skills students need to comprehend and interact with college-level texts and to produce original college-level writing through the process of generating ideas, drafting, organizing, revising, and editing. Satisfactory placement scores. Prerequisite: ICSR 0033 with a grade of “C” or better. (Spring only)

ICS 1101 STUDY SKILLS
This course will provide students an opportunity to explore and practice skills necessary for success in college. Students will learn how to manage time, keep up with assignments, take notes effectively and efficiently, work with textbooks, master complex material, structure review sessions and address different learning styles.

ICS 1163 STUDENT SUCCESS STRATEGIES
This course is designed to increase student success by increasing retention and academic success. Its focus is on improving critical thinking skills, learning strategies, computer literacy, healthy life-style skills and student knowledge of available resources both on and off campus.

ICSM 0104 INTRO TO COLLEGE MATH
This course provides an introduction and review of a variety of mathematical topics needed to prepare students for college-level Quantitative Reasoning, Business Math, or Fundamentals of Statistics. Topics for this course include a review of arithmetic operations and numerical reasoning, applications of ratio, rate, proportion, and percentage, introduction to basic statistical concepts, geometry, and personal finance. This course will also cover the basic algebraic manipulation of linear equations and formulas with a primer on graphing and an introduction to linear regression.

ICSM 0113 PREP FOR FUNDAMENTALS OF STATISTICS
Co-requisite course to be taken in conjunction with Math 1103. This course will provide supplemental and support instruction on the math and critical thinking skills used to analyze, compare, and interpret statistical concepts and results.

ICSM 0234 ALGEBRAIC LITERACY
Review of fundamental mathematics and introduction to algebra to include signed numbers, exponents, algebraic expressions and fractions, linear equations and inequalities, polynomials, factoring, and the basics of rational expressions and equations. This course also covers radicals and radical equations, complex numbers, systems of linear equations, quadratic equations, and the graphing of lines, systems of equations, and quadratic equations. Satisfactory placement scores are required or students must have completed ICSM 0104 with a grade of “C” or better. Prerequisite: ICSW 0033.

ICSM 0413 PREP FOR QUANTITATIVE REASONING
Co-requisite course to be taken in conjunction with Math 1413. This course will provide supplemental and support instruction on math skills used in various mathematical topics ranging from personal finance, measurement, geometry, statistics, counting methods and probability theory.

ICSM 0483 PREP FOR MATHEMATICAL MODELING
Co-requisite course to be taken in conjunction with Math 1483. This course will provide supplemental instruction and review of the basics of algebraic equations and functions to include their various uses in the modeling and interpretation of real world data.

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 ICSR 0033 with a grade of “C” or better. Prerequisite: ICSR 0033.

ICSW 0033 DEVELOPMENTAL WRITING
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 ICSW 0033 with a grade of “C” or better. Prerequisite: ICSW 0033.

ITP 1212 NONVERBAL COMMUNICATION
An introduction to the profession of sign language interpreting which includes an overview of the history of interpreting and interpreting organizations, the roles and responsibilities of the interpreter, an overview of various work venues, and the study of skills required to express communication without the spoken word through the use of facial expression, body language and gestures. Prerequisites: [R] [W]
ITP 1222 INTRODUCTION TO INTERPRETING
An introduction to the profession of sign language interpreting which includes an overview of the history of interpreting and interpreting organizations, the roles and responsibilities of the interpreter, and overview of various work venues, and a set of skills required to express communication without the spoken word through the use of facial expression, body language and hand gestures. Prerequisites: [R] [W]

ITP 1320 (1-4) TECHNICAL PROBLEMS-ITP
One to four credits. Technical problems in interpreter training that are of particular interest to interpreters.

ITP 1332 INTRODUCTION 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. Prerequisites: [R] [W].

ITP 1374 AMERICAN SIGN LANGUAGE II
Continuation of American Sign Language I (ASL). 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 2050 (1-6) ADVANCED TECHNICAL PROBLEMS
One to six credits, six maximum. A study of applied problems that are of special interest to the interpreter. Prerequisite: Department Head Approval.

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. Prerequisites: ITP 2413 and ITP 2513.

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. Prerequisites: ITP 2513 and 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 2513, ITP 2623.

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 2322 ETHICAL DECISION MAKING IN INTERPRETING
This course will focus on the ethical dilemmas interpreters encounter in various interpreting situations. We will discuss how to become aware of our own personal values, morals, and prejudices as well as how they can influence the interpreting situation. This course prepares students for the QAST written examination. Prerequisite: ITP 2313.

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-English 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 2522 AMERICAN SIGN LANGUAGE V
Continuation of American Sign Language (ASL) IV. This course further develops receptive and expressive ASL skills in authentic situations and expands the study of Deaf culture. There will be extensive concentration on American Sign Language grammar and communication skills, combined with linguistic comparisons of English and ASL. Prerequisite: ITP 2513.

ITP 2563 INTERPRETING ENGLISH TO ASL II
A continuation of Interpreting English to ASL I. Skills targeted also include interpreting simultaneously from sign to spoken English and recognition of a variety of signing modes. Prerequisites: ITP 2513, ITP 2413 and ENGL 1213.

ITP 2564 INTERPRETING PRACTICUM I
This course is designed to give the student practical, real world experience in the field of interpreting. Students will observe and interact with working interpreters in the field in a variety of settings. Students will take aspects of what they learn in the field to various interpreting lab assignments. Prerequisite: ITP 2653.

ITP 2565 INTERPRETING PRACTICUM II
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 2642.

MANAGEMENT

MGMT 2003 SMALL BUSINESS MANAGEMENT
Focuses on the experiences and problems faced by those who go into business for themselves. Looks at problems of organizing and managing individually owned businesses including location, securing capital, records, personnel and sales promotion. Prerequisites: [R] [W].

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 of managerial functions, including planning, organizing, staffing, directing and controlling; current trends in management; possible future developments in organization and administration. Prerequisite: [R] [W].

MGMT 2143 ORGANIZATIONAL LEADERSHIP
A study of the impact of leadership on organizational performance. Course discusses organizational structure, leadership roles, motives, behaviors, attitudes, and styles, leadership theories, tactics for organizational change, conflict resolution, and strategic leadership. Prerequisites: [R] [W].
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. Prerequisites: [R] [W]

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. Prerequisites: [R] [W].

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. Prerequisites: [R] [W] (Fall Only)

MGMT 2593 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. Prerequisites: [R] [W] (Fall Only)

MGMT 2663 PROJECT MANAGEMENT
This course examines project management roles and environments, the project life cycle and various techniques of work planning, control and evaluation, and the tools used to achieve project objectives. Prerequisites: ACCT 2103, MGMT 2103, MKT 2273

MGMT 2693 NON-PROFIT MANAGEMENT CAPSTONE
This course is the capstone for the Non-Profit Management Certificate. This course provides students the opportunity to apply the knowledge and skills acquired in the non-profit management coursework to real-world situations. Prerequisites: BUS 2103, MGMT 2493 and MGMT 2593 (Spring Only)

MANAGEMENT INFORMATION SYSTEMS

MIS 1733 MIS FOUNDATIONS AND IT GOVERNANCE PRACTICES
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 SECURITY MANAGEMENT
This course will cover standards to manage the security of assets within an organization. Topics include: Planning for contingencies, protection mechanisms, controlling risk, security management models, security management models, security management practices, etc. Prerequisites: MIS 2233 or Department Head 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: Department Head 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. Prerequisites: [R] [W]

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 merchandise 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 (1-3) 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 1303 BUSINESS MATH (A)
This course introduces students to mathematical problems within the world of business. Specifically, the course will review fractions, decimals, and percentages, calculation of cash and trade discounts, commissions, borrowing and lending money, concepts of present and future value, pay-roll deductions, taxes, and inventory. Prerequisite: [R] 50 Math Proficient

MATH 1413 QUANTITATIVE REASONING (A)
This course explores various topics designed to build an appreciation of mathematics and to expose students to mathematical problems within numerous disciplines. Specifically, the course will address some personal finance, geometry and measurements, probability problems and introduce fundamentals of statistics. Prerequisites: [R] 50 Math Proficient

MATH 1483 MATHEMATICAL FUNCTIONS AND THEIR USES (A)
This course features the study of equations and functions (linear, polynomial, rational, exponential, logarithmic) from various perspectives (symbolic, verbal, numerical, graphical). Digital techniques are used for graphing functions, solving equations, and modeling data through regression methods. Prerequisites: [R] 50 Math Proficient

MATH 1513 PRECALCULUS I (A)
This course is a study of equations and functions (polynomial, rational, radical, exponential, logarithmic) and systems of equations. This course serves as a prerequisite for Math 2123 or Math 2145. Prerequisites: [R] [M]

MATH 1613 PRECALCULUS II (A)
This course addresses trigonometric functions, solutions of right and oblique triangles, and applications of engineering. Prerequisite: MATH 1513 or Math Department Head Approval.

MATH 2103 BUSINESS CALCULUS (A)
Introduction to differential and integral calculus. For students of business and social sciences. Prerequisite: MATH 1483.

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 application. Prerequisites: MATH 1613.

MATH 2133 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 1613.

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] MATH 0123.

MICROBIOLOGY
MCRO 2124 INTRODUCTION TO MICROBIOLOGY
Introductory study of general principles of microbiology. Emphasis will be placed on current technologies and world events related to the cultivation, identification, and diseases associated with microbes. Previous biological science knowledge is advised. Lab: three hours per week. Prerequisite: CHEM 1154 or CHEM 1313.

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 1123 FIRE TACTICS II
A study of principles and methods with the fire ground 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 1253 HAZARDOUS MATERIALS FOR FIRST RESPONDERS
This course is designed to provide the first responders to a hazardous materials incident with the basic information they need to make the first impact on the incident a professional and positive one.

MFP 1320 (1-4) 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 1727 FIREFIGHTER I
Prepares students to the level of Firefighter I as defined by NFPA (National Fire Protection Association) 1001 Standard for Fire Fighter Professional Qualifications. Students completing the course with a grade of “C” or better will be eligible for certification by the International Fire Service Accreditation Congress (IFSAC) and Oklahoma Fire Service Training (FST) as Firefighter I. Live fire training and certification testing will be conducted by Fire Service Training in Stillwater, Oklahoma. Students must complete and pass Hazardous Materials Operations (MFP 2213) before certification of Firefighter I is granted by IFSAC and FST. Lab: three hours per week. Medical release from a physician is required. Prerequisite: MFP 1148.

MFP 2113 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. Prerequisites: MFP 1727

MFP 2163 FIRE ADMINISTRATION
A study of how to plan and implement long range programs in relation to prevention, training, public relations, suppression and personnel with special emphasis on budget processes and the fire department’s relation to overall community service deliverers.

MFP 2211 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 NFPA 1002 & 1451 requirements.
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, and 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 grade requirement. Prerequisites: MFP 1103, MFP 2163 and MFP 1727.

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 and MFP 2727.

NURS 1105 PREPARATION FOR A CAREER IN HEALTHCARE: NURSE AID TRAINING
Students will learn the roles and responsibilities of a certified nurse aide. The focus is on the necessary skills needed to effectively and safely care for clients in residential care facilities. The student will be eligible to take the state nurse aid exam and written exam at completion of the course. Must be 18 years or older to enroll. Prerequisite: [R]

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 1113, ICSR 0123 and NSCI 1113. This is a selective admission program. See department for details.

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 1154 or CHEM 1315, NSCI 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 1154 or CHEM 1315, 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 healthcare 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 course, students will incorporate the knowledge, practice, and ethical behavior necessary for safe, effective, holistic nursing practice within a technologically rich, dynamic healthcare 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: CHEM 1214 or 1314, NSCI 1113, ENGL 1113, PSYC 1113, BIOL 2214, PSYC 2213, and previous acceptance into the Nursing Career Ladder Pathway

NURS 2050 (1-3) 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 healthcare 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: MCR 2124, POLS 1113.

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 healthcare 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: MCR 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: MCR 2124, POLS 1113, NURS 2218. Co-requisites: HIST 1483 or HIST 1493, NURS 2238.

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 agriculture, and prevention of chronic disease through diets high in vegetables, fruits and whole 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

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]

PHIL 2223 INTRODUCTION TO EASTERN PHILOSOPHY (H)
This course will examine the primary philosophic questions addressed by each tradition of the major Eastern traditions. The goal of this course is to introduce how these different traditions offer valuable contributions to general philosophical questions. Prerequisite: ENGL 1113

PHYSICS

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, optic and atomic energy. No credit for students with PHYS 1114. Prerequisites: [R] [M] [SCI]

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] [M] [SCI] MATH 1483 or 1513. 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] [SCI]

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. Prerequisite: PHYS 1114

PHYS 2014 PHYSICS I (ENGINEERING) (L, N)
Calculus-based introductory course for science, math and engineering majors. Mechanics, waves, heat and thermodynamics. Prerequisite: [SCI] MATH 2145.

PHYS 2114 PHYSICS II (ENGINEERING) (L, N)
Continuation of PHYS 2014: electricity, magnetism and optics. Prerequisite: PHYS 2014.

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. Co-requisite: BIOL 1515

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

PLSC 1211 FIREARMS
Care and use of police firearms, including legal provisions and restrictions. Open only to COP (Collegiate Officer Program) students. Prerequisite: PLSC 2103 and Department Head Approval

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. Prerequisites: PLSC 1223 and PLSC 1123

PLSC 1320 (1-4) 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 PROCESSING AND PHOTOGRAPHY
Course includes basic and advance photographic principles and theories as they relate to law enforcement with an emphasis on crime scene documentation. Advanced crime scene processing documentation techniques dealing with court preparation and presentation will also be covered. Prerequisite: PLSC 1103

PLSC 2050 (1-6) TECHNOLOGICAL PROBLEMS
One to six, maximum six credits. A study of applied problems that are of particular interest to the technologist.

PLSC 2103 EMERGENCY MEDICAL RESPONDER
This course places an emphasis on basic knowledge and skills necessary to provide lifesaving interventions with minimal equipment while waiting additional EMS response. Upon completion of this course the student will obtain their certification in Basic Life Support for the Healthcare Provider, registration with the State of Oklahoma as an Emergency Medical Responder (EMR), and be eligible to become Nationally Registered as an EMR. Lab: two hours per week.

PLSC 2111 DEFENSIVE TACTICS
The study and practice of methods of defense employed by police officers. Open only to Collegiate Officer Program (COP) students. Prerequisite: Department Head Approval

PLSC 2133 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: 25 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. Prerequisite: Department Head Approval

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. Prerequisite: PLSC 1223

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. 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, CHEM 1104, BIOL 1303, BIOL 1311

PLSC 2434 FINGERPRINT IDENTIFICATION
Advanced techniques of fingerprint development with an emphasis on fingerprint comparison and identification. Lab: two hours per week. Prerequisite: PLSC 2413

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 2650 (1-4) 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.

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, specifications, 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 also include the basic principles, techniques, and procedures of overhead line construction, including pole-climbing. Lab: four hours per week.

PTDT 1154 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: PTDT 1104 or concurrent enrollment in PTDT 1104.

PTDT 1353 LINEMAN SAFETY/EQUIPMENT
An overview of the specific concerns and equipment used by the power transmission technician. Lab: two hours per week. Prerequisite: PTDT 1104 or concurrent enrollment in PTDT 1104.
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 line-man 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. Prerequisite: PTDT 1154 or concurrent enrollment in PTDT 1154.

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. Students must have required proof of passing the CDL permit before enrolling. Prerequisite: Department Head Approval

PTDT 2023 PRINCIPLES OF SWITCHING AND METERING
Students will learn the basic switching and metering systems used in the power industry. Prerequisite: PTDT 2003 or concurrent enrollment in PTDT 2003.

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

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. Prerequisite: Department Head Approval

PROFESSIONAL DEVELOPMENT

PD 1101 CAREER PREP
This course will provide students an opportunity to gain the proper tools for successful entry or reentry into their career field of interest. Students will complete a personal inventory of their interests, skills, and experiences for inclusion in resumes, job applications, and employment interviews. Students will prepare resumes and cover letters and participate in mock interviews.

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 2050 (1-4) 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 (S)
Examines the human response to and perceptions of racial differences through the lens of anthropological, mythological, slavery, sexuality and sociology. Prerequisites: [R] [W]

PSYC 2413 ABNORMAL PSYCHOLOGY (S)
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 2450 (1-6) 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. Prerequisites: [R], [W] & Department approval.

PSYC 2523 ETHICS IN BEHAVIORAL SCIENCES (S)
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 patterns 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.

PUBLIC SAFETY MANAGEMENT

PSM 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.

PSM 3023 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.

PSM 3033 STRATEGIC PLANNING AND RISK ANALYSIS IN PUBLIC SAFETY AGENCIES
This course will help the public safety manager to formulate vision, mission and strategic plans. Students will learn how to 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; and establish strategic planning, monitoring and controlling mechanisms that ensure positive results.

PSM 3043 COMMUNITY RELATIONS IN PUBLIC SAFETY
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 a public safety manager. The course will also develop the skills necessary to interact with the media regarding public safety issues and crisis situations.

PSM 3223 PROFESSIONAL DEVELOPMENT IN PUBLIC SAFETY
Students will develop a professional development portfolio through the completion of a series of projects.

PSM 3243 LEADERSHIP IN PUBLIC SAFETY
This course is designed to provide leadership skills within public safety departments. It will provide students with different leadership styles that may be utilized. It will also educate new supervisors to adapt and problem solve issues that may be encountered while dealing with public safety employees.

PSM 3253 PUBLIC SAFETY CONTINGENCY PLANNING
This course provides the student with knowledge of the techniques for the development of continuity of operations (COOP) and Continuity of Government (COG) plans and community hazard planning. The overall philosophy of this course 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.

PSM 3263 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.

PSM 3273 PUBLIC SAFETY CAPABILITIES AND PERFORMANCE-BASED PROGRAMS
Public safety agencies must conduct performance assessments and report results to the governing board and community in which they serve. This course prepares the student to perform different types of assessments at the project, program, agency, and organizational levels. Evaluative frameworks will be explored so the best approach may be utilized.

PSM 3650(1-4) TECHNICAL PROJECT 3000 LEVEL
A study of variable topics in emergency responder technologies at the 3000 level. May be repeated with different topics. Prerequisite: Department Head Approval

PSM 4050 (1-4) TECHNICAL PROJECT 4000 LEVEL
A study of variable topics in emergency responder technologies at the 4000 level. May be repeated with different topics. Prerequisite: Department Head Approval

PSM 4113 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.

PSM 4123 ETHICAL PRACTICES IN PUBLIC SAFETY
This course explores the case issues and philosophies as they relate to accountability in the public safety environment.

PSM 4133 LEGAL ISSUES FACING PUBLIC SAFETY 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.

PSM 4143 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.

PSM 4153 TECH RESEARCH & DESIGN IN PUBLIC SAFETY
The 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.

PSM 4223 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.

PSM 4243 PUBLIC SAFETY GRANT WRITING
The purpose of this course is to develop the student’s ability to prepare, write and submit a research grant proposal.

PSM 4253 CRITICAL INCIDENT PSYCHOLOGY FOR PUBLIC SAFETY
Emphasis of this course is on public safety employees and their psychological well-being before 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.

PSM 4513 ADVANCED OCCUPATIONAL PROFICIENCY IN PUBLIC SAFETY
This course is the capstone course of the program and is designed to assess the student’s proficiency in their major field of study. Students will write essays based on core material covered in the program, which address real world situations. Students will then present and defend their essays to a panel of assessors along with their ePortfolio in an assessment center process. The assessment is based on the student’s ability to articulate their knowledge, skills, and abilities in managing real world situations. Prerequisites: PSM 3013, PSM 3023, PSM 3033, PSM 3043, PSM 4113, PSM 4123, PSM 4133, PSM 4143, and PSM 4153

PSM 4523 PRACTICUM
Students will develop a comprehensive organizational program or significantly revitalize a program that improves the workplace or the community served. The project will be based on quantitative and/or qualitative research, existing literature, and include a post-evaluative methodology to determine effectiveness and efficiency. Prerequisites: PSM 3013, PSM 3023, PSM 3033, PSM 3043, PSM 4113, PSM 4123, PSM 4133, PSM 4143, and PSM 4153

PUBLIC SERVICE

PSR 1113 INTRODUCTION TO PUBLIC PERSONNEL ADMINISTRATION
Principles of communication, recruitment and selection of human resources; job classification performance appraisal. Prerequisite: [R] [W] (Fall & Spring)

PSR 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 assignment, citations for contempt of court, preparation for trial exhibits, computations of child support, decrees and motions to modify divorce decrees. (Fall Only) Prerequisite: [R] [W]

PSR 2023 PUBLIC LAW
Basic legal tenets and procedures affecting public and/or nonprofit agencies. Prerequisite: [R] [W] (Fall Only)
PSER 2333 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]

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 and Spring)

PSER 2223 LEADERSHIP AND GROUP DYNAMICS
Leadership and Group Dynamics is designed to provide patient care and assessment plus sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Prerequisite: RAD 2223; Corequisites: RAD 1333, RAD 2233

RAD 1113 INTRODUCTION TO RADIOLOGIC SCIENCE AND HEALTHCARE
Provides an overview of the radiographer and practitioners role in the health care delivery system. The principles, practices and policies of health care organizations are discussed. A foundation in ethics and law related to the practice of medical imaging is also included. Prerequisite: Program acceptance; Corequisites: RAD 1113, RAD 1235

RAD 1233 RADIOGRAPHIC PROCEDURES I
This course provides a knowledge base necessary to perform standard radiographic procedures of the trunk and extremities. Factors considered in the evaluation of diagnostic images are included. Prerequisites: Selective acceptance, Corequisites: RAD 1113, RAD 1123

RAD 1323 DIGITAL IMAGE ACQUISITION AND DISPLAY
This course provides an understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are discussed. Prerequisites: RAD 1434, RAD 2233; Corequisites: RAD 2223, RAD 2234

RAD 1333 PRINCIPLES OF IMAGING
This course establishes a knowledge base in factors that govern the image production process. Prerequisite: RAD 1233; Corequisites: RAD 1344, RAD 2233

RAD 1443 RADIOLOGIC CLINICAL PRACTICE I
Course content and clinical practice experiences are designed to provide basic patient care and assessment plus sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Prerequisite: RAD 1333

RAD 2113 IMAGING PHYSICS
This course establishes a basic knowledge of atomic structure and terminology. The nature and characteristics of radiation, x-ray production and the fundamentals of photon interactions with matter are also presented. Course content establishes a knowledge base in radiographic, fluoroscopic and mobile equipment and design, as well as quality control procedures. Prerequisite: RAD 2223; Corequisites: RAD 2333, RAD 2434

RAD 2223 RADIATION BIOLOGY AND PROTECTION
This course provides an overview of the radiation effects on molecules, cells, tissues and the body as a whole. Factors affecting biological response including acute and chronic effects are discussed. An overview of the principles of radiation protection, including the radiographer’s responsibilities is also presented. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations are incorporated. Prerequisites: RAD 1434, RAD 2235; Corequisites: RAD 1323, RAD 2234

RAD 2233 RADIOGRAPHIC PROCEDURES II
This course provides the knowledge base necessary to perform standard and special imaging procedures of the entire body. The evaluation of diagnostic images is included. The effects of various disease processes on radiographic appearances, as well as the impact on exposure factor selection are included. Prerequisite: RAD 1333; Corequisites: RAD 1533, RAD 1544

RAD 2324 RADIOLOGIC CLINICAL PRACTICE III
This course builds upon Radiologic Clinical Practice I and II. Clinical practice experiences are designed to provide patient care and assessment plus sequentially develop, apply critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Prerequisites: RAD 1434, RAD 2233; Corequisites: RAD 1323, RAD 2233
RAD 2333 ADVANCED MODALITIES
This course includes relative basic sectional anatomy, and is designed to provide a basic understanding of the operation of a computed tomography (CT) device. Students will also have an introduction to other modalities. Prerequisites: RAD 2223, RAD 2324; Corequisites: RAD 2113, RAD 2434

RAD 2434 RADIOLOGIC CLINICAL PRACTICE IV
This course builds upon Radiologic Clinical Practice I, II, and III. Clinical practice experiences are designed to provide patient care and assessment plus sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories in the performance of radiologic procedures. Prerequisites: RAD 1113, RAD 1123, RAD 1233, RAD 1323, RAD 1333, RAD 1344, RAD 1434, RAD 2223, RAD 2333, RAD 2324; Corequisites: RAD 2113, RAD 2333

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

RSE 1013 RESIDENTIAL WIND DESIGN & APPLICATIONS
A study of the input and output electrical delivery system for wind generation, especially as this system applies to residential (small-scale) wind turbines. Topics covered include blades, rotors, generators, controllers, brakes, wind vanes, gear drives and anemometers. Prerequisites: 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. Prerequisites: 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, heat exchanges and energy converters. Emphasis will be on residential (small-scale) applications. Prerequisites: 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, motors and drives, heat pumps, ventilation systems, domestic hot water systems, water conservation and utility analysis. Emphasis will be on applications in residential buildings.

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.

RSE 2211 RENEWABLE AND SUSTAINABLE ENERGY CAPSTONE
The student will review the information they have gained over the course of the program including the overall building envelope, lighting systems, 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 conducting a complete energy audit of a structure. Prerequisite: Advisor Approval

SCIENCE

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.

SCI 2000 (1-5) SPECIAL TOPICS IN SCIENCE
Special topics in science will be explored with the primary focus on laboratory-based inquiry and scientific method. Topics can include physical or biological science focus. Some coursework will be delivered and assessed online. Variable credit hours. Prerequisite: Department Head Approval

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. Prerequisite: Accepted to program Corequisites: SON 1153, SON 2315

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 (S)
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 (S)
Exploration in selected social issues in contemporary American society, such as deviance, poverty, sexism, racism and ageism. Prerequisite: SOC 1113

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

SOC 2213 CRIME AND DELinquency
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

SOC 2450 (1-6) SOCIOLOGY-SPECIAL TOPICS
Variable credit course of one to six hours, maximum six credits. Examines contemporary issues and problems within sociology. This course may be cross-listed with other technical problems or special topics sections in another discipline. Prerequisites: [R] [W]

SOC 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 PSYC 2523)

SOC 3623 CULTURAL DIVERSITY (H, S)
Historical and contemporary experiences of racial and ethnic groups. Consideration of theories related to dominant-subordinate group relations, prejudice, discrimination and the current social conditions of minority groups living in the United States. Prerequisite: Junior Standing.
SON 1113 ULTRASOUND PHYSICS AND INSTRUMENTATION I
A course in the physics and instrumentation of ultrasonography 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. Prerequisites: SON 1103, SON 1153, SON 2313 Corequisites: SON 1203, SON 1254

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 the need for efficient evaluation and 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 professionals 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 health-care law and medical ethics to solve challenging dilemmas. Professional interaction skills and the sonographer’s professional scope of practice will be emphasized. Prerequisite: Accepted to program Corequisites: SON 1103, SON 2315

SON 1203 CARDIOVASCULAR ULTRASOUND
An emphasis on adult acquired 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 for normal and common abnormal studies will be reviewed and practiced in the laboratory setting. Prerequisites: SON 1103, SON 1153, SON 2313 Corequisites: SON 1113, SON 1254

SON 1213 ULTRASOUND PHYSICS & INSTRUMENTATION II
Continuation of son 1113 physics & instrumentation I. A course in the physics and instrumentation of ultrasonography 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. Prerequisites: SON 1113 Corequisites: SON 2303, SON 2354

SON 1254 CLINICAL EXPERIENCE I
Clinical rotation in various clinical settings (hospital and/or clinic) for observation and some hands-on practice in a patient care setting under direct supervision of registered sonographers. Prerequisites: Corequisites: SON 1113, SON 1203

SON 2253 CLINICAL EXPERIENCE II
Clinical rotation in various clinical settings (hospital and/or clinic) for observation and hands-on practice in a patient care setting under direct supervision of registered sonographers. Prerequisites: Corequisites: SON 1113, SON 1203

SON 2303 CARDIOVASCULAR ULTRASOUND III
Instruction in advanced echocardiographic procedures. Topics include stress echo, related diagnostice imaging and related noninvasive cardiac testing. Students will build on previous semesters, adding more advanced and uncommon pathology of the vascular patient. The student will work on perfecting history taking, patient assessment, critical thinking and analyzing data. Advanced direct and indirect vascular procedures will be covered and analyzed. Prerequisites: SON 1113, 1203, 2253 Corequisites: SON 1213, SON 2354

SON 2313 CARDIOVASCULAR CONCEPTS
This course is a continuation from SON 1153 and will continue to expand the knowledge of the cardiovascular sonographer. The course is designed to prepare the student for the Cardiovascular Principles section of their Registry. The anatomy and physiology of the cardiovascular system are presented, with special emphasis on the relationship and connection of the two systems. Topics such as cardiovascular anatomy, cardiovascular physiology and hemodynamics, pathology, pathophysiology, pharmacology of the cardiovascular system, the electrical conduction system, congenital heart defects, intracardiac pressures and their correlation with other cardiovascular phenomena, coronary artery distribution, determinants and assessment of left ventricular performance and the phases of the cardiac cycle are discussed. Examination methods and interventional procedures are also explained. The textbook contains hundreds of sample questions that will help the student to prepare for clinical life as well as their national Registry. Prerequisite: Accepted to program Corequisites: SON 1103, SON 1153

SON 2354 CLINICAL EXPERIENCE III
Clinical rotation in various clinical settings (hospital and/or clinic) for observation and some hands-on practice in a patient care setting under direct supervision of registered sonographers. Prerequisites: SON 2253 Corequisites: SON 1213, SON 2303

SON 2403 CARDIOVASCULAR ULTRASOUND IV
A continuation of Cardiovascular Ultrasound III with emphasis on cardiac disease. A discussion of quantitative measurements and application of 2-D, M-Mode, Doppler and recognition of the sonographic appearances of cardiac disease is stressed. Students will develop a systematic approach to problem solving using critical thinking, and increase independent judgment to aid the provider in the evaluation of the peripheral vascular patient with vascular disease. A complete review in the laboratory setting of vascular anatomy, physiology, assessment, history taking and analyzing data for the preparation of the preliminary report. Prerequisites: SON 1213, SON 2303, SON 2354 Corequisite: SON 2454

SON 2454 CLINICAL EXPERIENCE IV
Clinical rotation in various clinical settings (hospital and/or clinic) for observation and some hands-on practice in a patient care setting under direct supervision of registered sonographers. Prerequisite: SON 1213, 2303, 2354 Corequisite: SON 2050 (1-3) 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 1113 SPANISH I
Pronunciation, elements of grammar, reading and simple composition in Spanish combined with some exploration of Hispanic culture. Prerequisites: [R] [W]

SPAN 1223 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 1113

SPAN 2050 (1-3) 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 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 score of 50 or Department Head Approval.

SPAN 2133 INTERMEDIATE SPANISH II
Consolidation of Spanish Language skills including vocabulary development, reading comprehension, oral fluency, and listening comprehension. Prerequisites: Spanish 2113 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 2113 or CLEP 50

SPEECH

SPCH 1113 INTRODUCTION TO SPEECH COMMUNICATION
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
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 1103 FUNDAMENTALS OF STATISTICS
This course will lay the foundation for further statistical study with a focus on analyzing situations, comparing statistical measurements, and interpreting the meaning of results from those measurements. This course teaches the key concepts of descriptive statistics along with the necessary algebra to help prepare students for Math 2103. Prerequisite: [R] ICRM 0104 or ICRM 0113

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: [R] [M]

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 1102 CONSTRUCTION SURVEYING
Develop student’s ability to utilize up-to-date instruments such as total station, theodolite, automatic and laser levels along with traditional accessory equipment in the performance of routine building construction tasks requiring applications of plane surveying theories and technologies for vertical and horizontal control. Differential and laser leveling, traversing, slope staking, topographic mapping and building layout are examples of the tasks to be taught.

SURV 1123 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 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.

SURV 1320 (1-6) TECHNICAL PROBLEMS IN SURVEYING
One to six, maximum six credits. Technical problems in surveying that are of particular interest to the engineering technician. Continuation of SURV 2233. Advanced applications to assigned civil or survey projects. Prerequisite: SURV 2233.

SURV 2102 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 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.

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. Prerequisites: SURV 2232 AND (SURV 2233 OR SURV 1233)

SURV 2243 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 2614.

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. Prerequisite: SURV 2233.

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. Prerequisite or Concurrent Enrollment in MATH 1613

SURV 2623 LEGAL PRINCIPLES - SURVEY I
This course addresses the fundamental principles of real property as applied to land surveying and related professions. Discussion and applications center on practical situations and concepts commonly encountered while conducting boundary surveys and the determination of the extent of ownership rights. Students explore the scope of the surveyors’ judiciary role in real property ownership. Prerequisite or Concurrent Enrollment in SURV 2614.
SURV 2633 LEGALS PRINCIPLES - SURVEY II
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 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 2650 (1-6) TECHNICAL PROJECTS - SURVEYING
One to six, maximum six 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. Prerequisite: Department Head Approval.

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 and computer applications. Prerequisites: SURV 2232 and SURV 2643.

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 NCES exam syllabus, basic surveying and mapping concepts, surveying computations and field techniques, applications of surveying, boundary law, and subdivision of land. Prerequisite: Department Head Approval.

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. Prerequisites: Advisor Approval.

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 Head 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 English to Spanish. Prerequisite: SPAN 2143 or Department Head Approval.

TSTI 1133 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 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 1123.

TSTI 1121 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 2050 (1-3) 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 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, busi-
ness 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 Approval.

TSTI 2413 ADVANCED PRACTICUM
Advanced experience in interpreting, translation, or language access services in a practical work setting in a hospital/clinic, law firm, business, or community organization. Experiences will include observation, shadowing, and practice under direct and indirect supervision. Prerequisites: Department Head Approval

TSTI 2450 (1-6) LANGUAGE IMMERSION
Intensive language and culture study in an approved setting in Spain or Latin America. Study may be arranged through a college or university offering study abroad programs for college credit. Study may also be arranged directly with a school or language center in Spain or Latin America or through an agency in the United States or overseas that offers study abroad opportunities. Study abroad arrangements must be approved in advance. May be repeated for a maximum of six credit hours. Prerequisite: SPAN 2143.

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

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. Prerequisite: [R]

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: Department Head Approval and admission to program

VT 1124 VETERINARY TECHNOLOGY ANATOMY
Explores directional terminology, developmental anatomy, and histology as well as gross morphology and function of skeletal, external and internal structures in animal species. Also covers blood related concepts. Prerequisites: Department Head Approval and admission to program

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. Additional lab fee required. Prerequisites: Department Head Approval and admission to program

VT 1223 VETERINARY TECHNOLOGY PHYSIOLOGY
Explores the structure and function of molecular, cellular, and organ system physiology in domestic animal species. Prerequisites: Department Head Approval and admission to program

VT 1320 (1-3) SELECTED TOPICS IN VETERINARY TECHNOLOGY
The study and/or analysis of a selected topic in Veterinary Technology. May be repeated with a different topic. Variable credit. Can be repeated up to six hours. Prerequisite: Department Head Approval and admission to program

VT 2103 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. Additional lab fee required. Prerequisites: Department Head Approval and admission to program

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. Additional lab fee required. Prerequisites: Department Head Approval and admission to program

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. Additional lab fee required. Prerequisites: Department Head Approval and admission to program

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. Additional lab fee required. Prerequisites: Department Head Approval and admission to program

VT 2223 VETERINARY TECHNOLOGY RADIOLOGY
Course is designed to introduce the student to the various aspects of radiology, including safety, theory, positioning, making exposures and development of radiographs. Additional lab fee required. Prerequisites: Department Head Approval and admission to program

VT 2233 VETERINARY TECHNOLOGY PHARMACOLOGY
An introductory pharmacology course which includes instruction in labeling, packaging and dispensing drugs, routes of administration, dosage regimen, pharmacokinetics and classification. Prerequisites: Department Head Approval and admission to program

VT 2250 (1-3) SELECTED TOPICS IN VETERINARY TECHNOLOGY
The study and/or analysis of a selected topic in Veterinary Technology. May be repeated with a different topic. Variable credit. Can be repeated up to six hours. Prerequisites: Department Head Approval and admission to program

VT 2314 PRECEPTORSHIP
An occupational experience afforded by cooperative effort between the student, Oklahoma State University-Oklahoma City and an approved veterinary medical practice. Prerequisites: Department Head Approval and admission to program

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: Department Head Approval and admission to program

VT 2413 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: Department Head Approval and admission to program

VT 2442 VT 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

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. Prerequisites: Department Head Approval and admission to program
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 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 2413 WIND TURBINE SITING & CONSTRUCTION
An introduction to the mapping of wind patterns that help 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 and MATH 1513.

WTT 2600 (1-6) 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 and MATH 1513.