Course Descriptions

New Mexico Common Course Number and Transfer Module Area is listed parenthetically following course description (if applicable). See Transfer Among New Mexico Higher Education Institutions on page 4 - 5 of this catalog.

Academic Career Studies

ACS 100 Student College Success (3)
This course is designed to enhance student success in college. Topics include career and life planning, decision making, time planning, test-taking, communication skills, study techniques, question-asking skills, library use, and personal issues that face many college students.

ACS 200 Planning for Career Success (3)
Planning for Career Success will familiarize students with concepts, ideas and activities designed to develop individual motivation and self-esteem to achieve future career success and satisfaction. The student will be introduced to methods of self-assessment, interest assessment, career exploration, job skills, life skills, and work/career readiness. The student will be engaged in dynamic and interesting activities.

Accounting

ACCT 110 Office Accounting (3)
An investigation of the basic principles of accounting as they pertain to petty cash, payroll, a service enterprise, bank reconciliation, and preparation of financial statements. This course will provide students with a basic understanding of accounting procedures for administrative support staff.

ACCT 111 Principles of Accounting I (3)
This course introduces basic accounting principles as applied to proprietorships and partnerships. The concepts and methods underlying the development and preparation of the income statement and balance sheet will be emphasized. Topics covered are income measurement; accounting for current assets, current liabilities, and property, plant, and equipment; and information-processing systems.

ACCT 210 Principles of Accounting II (3)
This course is a continuation of the study of accounting as an information system with emphasis on corporate financial accounting and managerial uses of accounting data. This course will include accounting for corporate equity, long-term liabilities, and long-term investments; preparation and analysis of financial statements; managerial and cost accounting; and budgeting and cost analysis. Prerequisite: ACCT 111.

ACCT 211 Personal Income Tax (3)
This course familiarizes the student with the Internal Revenue codes as they pertain to the individual. Topics include individual tax computation, income, deductions, capital gains and losses, credits and alternative tax methods. The course includes preparation of tax returns and accounting procedures for individuals, with an introduction to partnership tax structures. Prerequisite: ACCT 111.

ACCT 213 Managerial Accounting (3)
Managerial Accounting is designed to give students knowledge and appreciation of the ways accounting can help managers in decision making. Topics to be covered include cost accounting, systems design, segment reporting, budgeting, standard costs and variance analysis, and decision making skills. Prerequisite: ACCT 222.

ACCT 221 Microcomputer Accounting (3)
This course introduces the use of microcomputers in accounting, general accounting theory, as well as covering computer hardware and software. The focus of the course is on developing a mastery of a microcomputer accounting system: general ledger, accounts receivable, accounts payable and payroll. Prerequisite: ACCT 111.

ACCT 222 Intermediate Accounting I (3)
This course presents techniques of analysis as they pertain to the fundamentals of accounting theory, as well as an overview of financial accounting fundamentals and a more in-depth analysis of balance sheet accounts. Appropriate theories and practice for the determination of asset values, liabilities and related problems of income determination are covered. Prerequisite: ACCT 210.

Agri-Business

ABM 162 Entrepreneurial Business (3)
This course is designed to introduce business management principles used in a proprietorship. Setting up a business, record keeping, customer relations and marketing strategies are among the topics covered in this course. Students planning to start their own business should benefit from this course.

ABM 190 Internship in Agri-Business (3)
This course is designed to provide the student with the opportunity to gain on-the-job experience. Students gain this experience by working under the direct supervision of

an agri-business expert. Exposure to technical skills, business management, and customer relations are the content of this course. The internship can be done fall or spring semester or during the summer session.

ABM 264 Agriculture Economics (3)
This course provides students with an introduction to the basic concepts and issues in economics. Topics will include the microeconomic forces influencing the decisions of producers and consumers in the market place. Additionally, this course introduces factors affecting industry and firms, demand, supply, cost, pricing and output policies.

ABM 265 Agriculture Marketing (3)
This course explores the principles of marketing agricultural products and commodities. Instruction in the techniques of marketing services provided to agriculture related fields is also provided in this course. Development, analysis and decision making associated with marketing of agricultural products and services are studied.

ABM 266 Agriculture Finance (3)
Characteristics of agriculture in relation to financial costs, risks and returns are reviewed. Practices and procedures of agricultural credit institutions are also considered. The principles of financial management in agriculture are also covered.

ABM 290 Internship in Applied Agri-Business (3)
This course is designed to provide on-the-job work experience. Students gain hands-on work experience by working with an expert in agri-business. Knowledge of technical skills, business management, and customer relations are realized in this course. The internship can be done in the fall or spring semester or during the summer session.

Allied Health Sciences

AHS 101 Introduction to Allied Health Science (3)
Introduction to Allied Health Science introduces the student to the duties and responsibility of the varied healthcare disciplines. The topics of this course provide basic knowledge that is common to a variety of allied healthcare positions. This course helps build a sound foundation of knowledge and provide many opportunities for cross training. Topics discussed in this course include: legal and ethical issues, healthcare communication techniques, understanding patient's needs, infection control and career planning.

AHS 102 Introduction to Anatomy and Physiology (3)
Introduction to Anatomy and Physiology provides students with a basic knowledge of the structure and function of the human body. The course includes an overview of each body system and discussions of common disorders and diseases of each anatomical system.

AHS 103 Medical Terminology (3)
This course involves an integrated anatomy and physiology system approach for teaching medical terminology to the health care student. This assists students in learning terminology and to incorporate this knowledge through an understanding of anatomy and physiology. In this way beginning students discover the purpose and use of medical terms they are learning and using. This course assists students who are learning medical terminology for the first time as well as providing a broader knowledge of terminology as related to anatomy and physiology.

AHS 108 Fundamentals of Human Anatomy (4)
This course provides an understanding of anatomical principles that underlie medicine, nursing, dentistry, and other related health professions. The focus is on the structure of the human body, with a body system approach. Laboratory procedures/dissections are included in this course.

AHS 109 Fundamentals of Human Physiology (4)
This course provides an understanding of the function of the human body as well as the diseases that pertain to each body system. A scientific body system approach is used. Laboratory procedures/dissections are included in this course.

AHS 110 Fundamentals of Nutrition (3)
Included in this course are the six essential nutrients and their functions; meal planning using the four food groups as well as the U.S. Government's Dietary Guidelines; food customs and their origins; nutritional needs during pregnancy and lactation, childhood and adolescence, as well as young, middle, and late adulthood. Specific nutritional concerns relating to each age group are discussed.

AHS 112 Fundamentals of Nursing Assistant Applications (4)
The primary objective of this course is to prepare nursing assistants to provide basic nursing care under the supervision of nurses in acute, long term, and home care settings. Emphasis is placed on providing caring, compassionate, and competent service to patients.

AHS 112L Nursing Assistant Lab/Clinical (3)
Nursing Assistant Lab/Clinical provides students with observation and supervised practical experience in labs, hospitals, and nursing homes to reinforce classroom learned theory and skills in the Allied Health Sciences field.

AHS 114 Law and Ethics for Health Care (3)
This course provides students with an overview of the laws and ethics relevant to health care careers that can help guide them through the legal and ethical questions they may reasonably expect to face as a health care practitioner. Research and review of real-life court cases and legal citations will be conducted using the Internet. This allows the student to gain expertise in using the Internet as a research tool.

AHS 118 Standard First Aid and Adult CPR/ AED for the Workplace (.5-1)
Prepare your staff with the knowledge and skills necessary to prevent, recognize, and provide basic care for injuries and sudden illnesses until advanced medical personnel arrive and take over. This course covers standard first aid, adult CPR and AED training and leads to nationally recognized certification.

AHS 120 Health Unit Coordinator Management (2)
This course defines the duties and responsibilities of the health unit coordinator and the relationship to the other nursing departments within the health care facility. It introduces the importance of communication skills, both written and verbal, with emphasis on telephone communications and etiquette.

AHS 121 Health Unit Coordinator Procedures (4)
Students are instructed in the responsibility of preparing, recording data upon, and maintaining the patient's chart in accordance with state laws and hospital or other health care facility standards. This course provides the necessary training in avoiding errors while performing the critical task of transcribing a physician's orders.

AHS 121L Health Unit Coordinator Lab/Clinical (3)
Health Unit Coordinator Lab/Clinical provides observation and supervised practical experience for Allied Health Science students at local and area labs, hospitals, and nursing homes in order to reinforce classroom-learned theory and skills.

AHS 131 Pharmacology (3)
Pharmacology provides an introduction to basic pharmacology and introduces the student to the science of drugs, their sources, and uses. This course provides a historical perspective of pharmacy practice in health care as well as regulatory standards and consumer safety.

AHS 132 Pharmacy Technician Procedures (3)
Pharmacy Technician Procedures provides the student with an introduction of the knowledge and skills necessary to perform the specific duties of a pharmacy technician. Included in this course are the duties and responsibilities of the pharmacy technician and the standards of ethics governing pharmacy practice. Emphasis is placed on accuracy of calculations, correct interpretation of numeric symbols and abbreviations, and comprehension of concepts and formulas. The student will perform pharmaceutical calculation, dosage determinations and solution preparation.

AHS 132L Pharmacy Technician Lab/ Clinical (3)
Pharmacy Technician Lab/Clinical provides Allied Health Sciences students with supervised practical experience in the lab and clinical setting in order to reinforce classroom-learned theory and skills relating to the duties of Pharmacy Technician.

AHS 141 Fundamentals of Cardiac Monitoring (3)
This course provides an understanding of the functions of the circulatory system and its related diseases. Emphasis is placed on cardiovascular pharmacology, basic reading of EKGs and identifying specific arrhythmias. This course may be used as a preparatory course for the Advanced Cardiac Life Support certification.

AHS 190 Internship in Allied Health (1-6)
This course provides the student an opportunity to gain practical experience in a health care setting. Possible locations for health care internships could include a hospital, nursing home, home health care, hospice, community clinic, and Public Health office. Students will identify learning objectives at the beginning of the internship to be evaluated at the end of the semester.

AHS 211 Introduction to Advanced Clinical Applications (2)
Introduction to Advanced Clinical Applications introduces the student to the training and competency requirements needed for the Advanced Nursing Assistant. Included in this course are legal and ethical issues, patient needs and behavior, communication skills and career goals.

AHS 212 Advanced Nursing Assistant Procedures (4)

This course prepares the nursing assistant to function as a multi-skilled care giver. It provides the nursing assistant with knowledge and skills to perform advanced patient care procedures such as sterile technique, performing EKGs, respiratory procedures, and elimination procedures. Prerequisite: AHS 112.

AHS 212L Advanced Nursing Assistant Lab/Clinical (3)

Advanced Nursing Assistant Lab/Clinical provides students with supervised practical experience in the lab and clinical setting, which are necessary to reinforce classroom-learned theory and skills. Prerequisite: AHS 112L.

AHS 223 Emergency Medical Technician-Basic (6)

One of the most critical and visible health problems in America today is the sudden loss of life and disability from catastrophic accidents and illnesses. This course trains emergency medical personnel to recognize and stabilize patients with life-threatening emergencies at the scene and in transport.

AHS 231 Advanced Pharmacology (3)

Advanced Pharmacology provides an in-depth look at drugs, their origin, properties, and effects on living organisms. This course looks at the characteristics of the major drug classifications and includes therapeutic uses, side effects, precautions, contraindications, interactions, product names, and usual dosages. Prerequisite: AHS 131

AHS 232 Advanced Pharmacy Technician Procedures (3)

Advanced Pharmacy Technician Procedures provides the student with a stepwise approach for learning and understanding the various components of the profession of pharmacy. Topics included in this course are: drug purchasing and inventory control, manufacturing, packaging and labeling of drug products, aseptic compounding and parenteral admixture operations, institutional drug-distribution system, and dispensing of prescriptions for ambulatory patients. Prerequisites: AHS 131 and AHS 132.

EMT 101 First Responder (3)

The First Responder course trains students to become an important part of the emergency care team. Students will be introduced to the correct knowledge and practical skills to render appropriate lifesaving emergency care such as airway and respiratory intervention, cardiopulmonary resuscitation, bleeding control, special wound care, stabilization of spinal injuries and splinting of fractures.

EMT 102 First Responder/EMT Basic Refresher (3)

The First Responder/EMT Basic Refresher course is designed to review and update the material taught in the First Responder and EMT Basic curriculums. The EMS Academy and the University of New Mexico Health Sciences Center is the parent program under whose auspices this course is conducted.

EMT 123 Emergency Medical Technician-Basic (6)

The Emergency Medical Technician-Basic course is designed specifically for emergency medical personnel who have access to specialized vehicles equipped with specialized items of equipment. The course content trains emergency medical personnel to recognize and stabilize patients with life-threatening emergencies at the scene and in transport, utilizing the specialized items of equipment.

Animal Science

ANSC 100 Introduction to Animal Science (3)

Introduction to Animal Science is an orientation and survey of the livestock industry in the United States. The course serves as an introduction to breeding, feeding, marketing, and management practices for producing and selling farm animals. This course for animal science majors is also of interest to students who desire an introduction to livestock practices.

ANSC 141 Horsemanship (3)

This course is designed to familiarize students with basic horsemanship concepts and skills. Safety in handling horses (catching, holding, tying and restraining) and assessment of horses are introduced. Tack and equipment used in the care, handling and riding of horses are also covered.

ANSC 150 Anatomy and Physiology of Domestic Animals (3)

This course is designed to provide for the study of various systems within the bodies of animals. The structure and function of these systems is the content of this course. Various farm animals are studied, including the cow, horse, sheep and pig. Other animals are included in certain sections.

A**NSC 151 Equine Anatomy and Physiology (3)**

This course presents to students a broad based approach of horse anatomy and physiology with emphasis on the foot and lower leg. A comprehensive look at hoof and leg dissection is also covered in this course. The biomechanics of these structures are also presented.

ANSC 170 Livestock Evaluation (3)
This course provides the student with instruction on the selection, classification, grading and judging of livestock. Evaluation areas include beef cattle, hogs, sheep, horses, and carcass. Students gain valuable experience in these processes through hands-on practice of selection and judging. Students' oral communication skills are enhanced through practice in giving oral reasons.

ANSC 170L Livestock Evaluation Lab (1)
This course is designed for students wishing to gain additional hands-on experience in judging livestock. This practicum-based course addresses livestock selection, grading, evaluation, and placing. This course should be taken concurrently with ANSC 170 Livestock Evaluation. Students on the livestock judging team are required to take this course.

ANSC 171 Oral Livestock Reasons (4)
This is an introductory livestock judging course which offers instruction in oral reasons in livestock judging. Many types and styles of oral reasons in defense of placing cattle, swine, sheep, and horses along with livestock carcasses of each species will be covered.

ANSC 190 Internship in Animal Science (3)
This course is designed to provide the student the opportunity to gain on-the-job-experience. Students gain this experience by working under the direct supervision of an animal science expert. Exposure to technical skills, business management, and customer relations are the content of this course. The internship can be done in the fall or spring semester or during the summer session.

ANSC 224 Equine Management (3)
This course provides a review of history, breeds, careers and other segments of the horse industry. Overview study of acceptable management procedures, welfare issues, equine health, nutritional and reproductive management are also in this course. An overview of facility design is provided.

ANSC 230 Animal Health and Diseases (3)
This course provides an overview of animal health and the diseases which lead to unhealthy animals. The primary focus is on diseases common to farm animals. The diagnosis, management and control of animal diseases, treatment and prevention are also included.

ANSC 245 Animal Breeding (3)
This course presents the fundamental principles of reproduction, variation, breeding systems and their application to domestic species. Reproductive anatomy and physiology will be covered. Various systems and their application, including artificial insemination, will be presented.

ANSC 255 Beef Production (3)
This course is designed for students planning a career in some segment of the beef cattle industry. Students will be instructed on management and marketing practices of beef cattle, including selection, breeding, nutrition and reproduction. Production and management of beef cattle in all segments of the industry with a holistic approach are also studied. Prerequisite: ANSC 245.

ANSC 270 Meat Animal and Carcass Evaluation (4)
This is an advanced Animal Science course which provides instruction in both classroom and lab for meat and animal carcass evaluation to consistently evaluate beef, lamb, and pork carcasses. This course is designed to prepare students with the knowledge and skills to evaluate carcasses according to current industry standards. Students will also gain live animal evaluation experience relative to projected carcass value. Prerequisite: ANSC 170.

ANSC 271 Advanced Livestock Evaluation (4)
This is an advanced Animal Science course which offers the student an opportunity to study the differences in breeds of livestock, relationships between form and function of livestock, and serves as a preparation for national livestock judging competition. Extensive time will be spent on judging and presenting oral reasons. Prerequisite: ANSC 171.

ANSC 275 Principles of Nutrition (3)
This course provides an introduction to nutrients and their function. The relationship of the anatomy of the digestive tract of animals and their ability to utilize feedstuffs is presented. Classification, digestion, absorption, transport and metabolism of major nutrients required by animals for maintenance, growth and production are studied.

ANSC 285 Ruminant Nutrition (3)
This is an advanced nutrition class focusing on ruminant farm animals: cattle, sheep and goats. Energy, nitrogen and mineral nutrition of ruminants with special emphasis on digestive physiology and metabolism of non-protein nitrogen compounds are covered. Prerequisite: ANSC 275.

ANSC 290 Internship in Applied Animal Science (3)
This course is designed to provide on-the-job work experience. Students gain hands-on work experience with an expert in animal science. Knowledge of technical skills, business management, and customer relations are realized in this course. The internship can be done fall or spring semester or during the summer session. Prerequisite: ANSC 190.

Anthropology

ANTH 101 Introduction to Archaeology (3)
Introduction to Archaeology provides students with an overview of archaeological fundamentals and how these can be utilized to understand ancient societies. The course emphasizes the analysis of modern societies as a method of reconstructing the past. There is a detailed case study of the Maya site of Copan.

ANTH 201 Introduction to Cultural Anthropology (3)
This course provides an introduction to the diversity of human cultures and their adaptations. Students will learn about the underlying themes of linguistics, economics, politics, and religion that link all human cultures. This course will provide a survey of the world's diverse cultures and how they relate to the natural environment and to each other.

Art

ART 101 Art Appreciation (3)
Students of Art Appreciation study major historical visual art movements, as well as the basis of their being and their visual characteristics. The importance and the context of art within the formation of culture will be considered. How a visual style/movement functions as a pro-active force influencing and revealing its social structure will be studied. (ARTS 1113 - Area V)

ART 103 Basic Design (3)
Students will gain a foundation for working knowledge of primarily two-dimensional design on which to build the visual thinking skills, knowledge of historical and contemporary art forms, technical approach to materials and the methods for channeling creative energies that enable a lifetime of personal artistic expression.

ART 104 3-D Concepts (3)
Students will thoroughly examine the formal elements of three-dimensional form through hands-on personal experience, observing the work of others in the studio environment, exploring a broad repertoire of media possibilities, and critical analysis of produced works.

ART 105 Basic Casting Techniques (3)
Basic Casting Techniques is an introduction to fundamental foundry practices. Students will model several small sculptures and reliefs. At least one project may be chosen to be poured in bronze. Elementary wax chasing, sprueing, and metal chasing will be experienced through practical application. Elementary design will be considered.

ART 107 Silversmithing for the Artist (3)
This laboratory-oriented course is designed for any student who has a desire to enhance their forging skills. Students are allowed to select and practice the forging or blacksmithing skill of their own choosing.

ART 108 Artistic Metalworking Engraving I (3)
This course is designed for introductory level engraving on precious and non-precious metals. This course consists of understanding the theory and practice of hand and power assist engraving on spurs and jewelry.

ART 112 Drawing I (3)
Students will investigate a variety of media techniques, descriptive and expressive possibilities with an emphasis on black and white. They will build perceptual skills in terms of drawing from studio set-ups. They will also gain basic knowledge of the elements of art to lead to their deliberate manipulation for different types of spatial illusion, compositions, and expressive meaning.

ART 113 Painting I (3)
Students will investigate a variety of media techniques, descriptive and expressive possibilities with an emphasis on color. They will build perceptual skills in terms of painting from studio set-ups. They will also gain basic knowledge of color theory for different types of compositions and expressive meaning. Prerequisite: ART 112.

ART 114 Sculpture I (3)
Sculpture I will introduce the student to practical application of three basic methods of manipulating form: subtraction-carving, additive-modeling, and construction—the fastening together of materials. The relationship between intention, content and formal expression will be addressed. A brief introduction to the developmental history of sculpture will be presented to augment the understanding of sculpture as an expressive language. Prerequisite: ART 104.

ART 160 Printmaking (3)
Students will investigate a variety of printmaking techniques with access to a printing press. They will continue to build skills in drawing and color theory.

ART 202 Figure Drawing (3)
Figure drawing introduces the student to drawing the human form with an emphasis upon critical inquiry and analytical observation. The study of skeletal and muscular structure will be covered in this course. Critical analysis of personal and of fellow students' art

work is an important element of this course. Prerequisite: ART 112.

ART 203 Painting II (3)
The Painting II student will explore the visual vocabulary options which painting invites, both technically and conceptually. The student will develop facility in representative painting from observation and from imagination. Conceptual and formal critical analysis of students' own work and the work of fellow students will be important in this course. Prerequisite: ART 113.

ART 204 Sculpture II (3)
In Sculpture II, students will choose their media and method of sculpture personally. Students will present a written proposal of what they plan to accomplish during the semester, how they plan to accomplish it, and why. A series of three sculptures which share and carry forward that stated conceptual basis will be completed. Evaluation of personal and fellow students' work is important in the course. Prerequisite: ART 114.

ART 205 Modeling Sculpture and Moldmaking (3)
In this course students will create sculptures by modeling the form in plasticine clay. Visual expression of personal concept will be an important factor in each sculpture. Participation in formal and conceptual class critiques will be mandatory for each assignment. Students will create rubber molds from each sculpture from which wax patterns may be cast in a future class. Prerequisite: ART114.

ART 215 Casting Wax and Bronze (3)
In this course students will cast wax patterns from molds created in a previous course (Modeling Sculpture and Moldmaking). Those wax patterns will continue through the entire bronze casting process, including finishing and patination of the sculpture. The student will personally perform each step in the process. Prerequisite: ART 205.

ART 222 Drawing II (3)
Each Drawing II student will explore the technical options available in the creation of a visual conceptual vocabulary. The student will develop a facility in representative drawing from observation and from imagination. Participation in conceptual and formal critical analysis of personal and of fellow students' work is important in this course. Prerequisite: ART 112.

ART 225 Foundry (3)
Foundry students will demonstrate skill and technical comprehension of each phase of the foundry process. Students will create sculptures, the number of which will be determined by the size and complexity of each work and shall successfully translate each piece into cast metal. Demonstration of competent critical analysis, both technically and conceptually, is an important part of this course. Prerequisite: ART 215.

ART 230 Studio (3)
This course provides the student who is enrolled in another art course the opportunity for additional working time to complete projects required for those courses. No work originating outside of a current course may be worked on in the course. All safety practices and precautions relating to processes and procedures performed must be observed at all times. Co-requisite: Enrollment in another art course.

ART 261 Art History (3)
This course in art history examines the works of art that define the Western visual tradition, from ancient Greece to the present day, and how they reflect the prevailing attitudes of the society in which they were created. Both the form and content of major works of art will be examined in relation to their social and cultural context. (ARTS 2113 - Area V)

ART 293 Special Topics in Art (1-10)
Special Topics is a format through which an instructor may occasionally present unusual but relevant art-related issues, useful processes, technical procedures, or practical experiences that may benefit the contemporary need of art students. Prerequisite: Consent of the instructor.

Automotive Technology

AMT 100 Automotive Basics (2)
This course is a comprehensive study of basic automotive systems. Topics include the study of shop safety, proper use of hand tools, fasteners, gaskets, seals and sealants, measuring tools and an introduction to engine operating systems including electrical, ignition, fuel, cooling and lubrication. This will be a co-requisite course for any new incoming students taking any automotive courses.

AMT 101 Brakes, Steering, Suspension, Alignment Theory (3)
This course covers the basics of tire and wheel construction, theory of component function and operation of brake, suspension, and steering systems. Topics include principles of hydraulics, suspension geometry and alignment angles, and wheel balance. Emphasis is placed on preventive maintenance, system diagnosis and failure analysis. The course involves discussion and demonstration of proper operation of brake lathes, wheel balance and alignment machines. Safety will be emphasized in the use of all specialized shop tools and equipment and will follow standards set by the Council of Automotive Service Excellence (A.S.E.).

AMT 102 Brakes, Steering, Suspension, Alignment Lab (3)
This course includes diagnosis of brake system problems, repair and service of brake systems using the proper procedures, methods, tools and equipment. Students receive practical shop experiences analyzing and correcting various suspension and steering problems, front-end and rear-end alignment, and steering systems repair. Co-requisite: AMT 101.

AMT 111 Electrical Systems Theory (3)
This course is the study of basic electricity, automotive circuitry, and wiring diagrams. Students will receive complete coverage of the batteries, starting, charging, and accessory systems including application, testing, diagnosis, and repair. Co-requisite: AMT 112.

AMT 112 Electrical Systems Lab (3)
This course involves practical application, analysis and repair of areas and systems covered in the electrical systems theory class. It also involves use of proper methods, tools, specifications and equipment. Co-requisite: AMT 111.

AMT 121 Electrical Tune-up and Fuel Systems Theory (3)
This course covers ignition systems, including standard, transistorized, and electronically controlled systems. Basic fuels, fuel delivery, and carburation, as well as electronic fuel injection and multi-port fuel injection are discussed. Students gain a knowledge of emission control component theory of operation and diagnosis. Prerequisite: AMT 111.

AMT 122 Electrical Tune-up and Fuel Systems Lab (3)
This course involves practical application, repair and diagnosis of ignition, carburation and emissions systems. Hands-on experience is provided through the use of customer vehicles. Co-requisite: AMT 121.

AMT 131 Automotive Electronics Theory (3)
Automotive Electronics Theory is the study of the complete electronics system, which includes microprocessors, sensors and actuators of the computerized ignition, fuel injection and emission control systems. The course provides students with coverage of the circuits, application, operation, testing and diagnosis of the above systems. Prerequisite: AMT 121.

AMT 132 Automotive Electronics Lab (3)
Lab experiences in Automotive Electronics Lab correspond to the material covered in AMT 131. The course includes the proper use of tools, scanners, and other test equipment to diagnose the computers, sensors and actuators, along with the repair and adjustment of the computerized ignition, fuel and emission systems. Co-requisite: AMT 131.

AMT 190 Internship in Automotive Technology (3)
Students in this course receive on-the-job experience in a dealership, national chain service facility or independent repair facility under the direct supervision of the program instructor. Students utilize the skills and knowledge acquired in the previous year. Students will be able to base future employment decisions on the experience received. Prerequisite: Successful completion of first and second semesters of automotive technology or approval of the program director.

AMT 201 Clutch, Manual Transmission/ Transaxle, Driveshaft, and Differential Theory (3)
This course provides instruction in automotive clutch purposes, design and function, along with the workings of the various modern three-, four-, and five-speed standard transmissions and transaxles. Topics include discussion of drive shaft assemblies along with differential and front wheel drive types.

AMT 202 Clutch, Manual Transmission/ Transaxle, Driveshaft, and Differential Lab (3)
This course involves lab work relative to the clutch, manual transmission/transaxle, driveshaft, and differential. It includes use of correct diagnostic, reconditioning and/or overhaul procedures. Co-requisite: AMT 201.

AMT 211 Automatic Transmission/ Transaxle Theory (3)
This course provides the fundamentals of hydraulics, planetary gears, holding devices, and their application to automatic transmissions. Students are introduced to the various components and their functions, along with rebuilding the power flows of various present-day automatic transmissions, including four speed over-drives and front wheel drive systems.

AMT 212 Automatic Transmission/ Transaxle Lab (3)
This lab includes complete servicing and adjustment procedures, troubleshooting, diagnosis, repair and overhaul of various present-day automatic transmissions in a live shop. It provides maximum supervision and guidance for completion of this very complex and exacting work. Co-requisite: AMT 211.

AMT 221 Major Engine Theory (3)
This course includes the complete theory and techniques of rebuilding, servicing, and diagnosing of the internal combustion engine and its related parts and systems.

AMT 222 Major Engine Lab (3)
This course consists of practical application in the techniques of rebuilding and servicing the automotive and light truck engines and their related systems, using the proper procedures, tools, and testing equipment. Co-requisite: AMT 221.

AMT 231 Automotive Environmental Systems Theory (3)
This course covers principles of evaporation, heat transfer, temperature and pressure. Students become familiar with various systems in regard to circuits, components and their operation in each application. The course includes an explanation of heating and air-conditioning systems as presently used in today's automobiles, including integrated and isolated installation, and their corresponding control systems. Students are provided with instruction on the proper use of refrigerant recovery/recycling/recharging equipment. Prerequisite: AMT 111.

AMT 232 Automotive Environmental Systems Lab (3)
This lab includes diagnosis, service, repair, installation, and overhaul of live environmental systems. It covers custom, factory, and automatic systems of the popular makes and models used in present-day automobiles. Personal safety is stressed. Co-requisite: AMT 231.

AMT 290 Internship in Applied Automotive Technology (3)
AMT 290 is a continuation of AMT 190 Internship in Automotive Technology. This course provides students with additional hands-on experience under the direction of the program instructor. Prerequisite: AMT 190.

AMT 293 Advanced Lab for Applied Automotive Technology (3)
AMT 293 is a continuation of AMT 190 and AMT 290 Internship in Automotive Technology. This lab course provides students with additional hands-on experience under the direction of the program instructor. Prerequisites: AMT 190 and AMT 290.

Biology

BIOL 113 Introduction to Biology (4)
This course presents an overview of life on Earth, its structure, function, and diversity. Students will explore the basic structure and functions of biological systems, the basic features of the theory and the process of evolution and the fundamentals of behavior and ecology. Laboratory exercises will be included. (BIOL 1114 - Area III)

BIOL 211 Human Anatomy and Physiology I (4)
This course is a survey of the anatomy and physiology of the human body from the cellular level through systems including integumentary, skeletal, muscular, and nervous systems. The lecture portion of the course introduces the student to the structures of the human body while the laboratory portion of the course allows the student the opportunity to explore the physiology of the structures. Dissection of non-human biological specimens is required. It is recommended that students have a basic knowledge of biology and/or chemistry before enrolling in this course.

BIOL 212 Human Anatomy and Physiology II (4)
This course is a continuation of Human Anatomy and Physiology I. The following systems of the human body are covered: endocrine, blood, cardiovascular, lymphatic, digestive, respiratory, urinary, and reproductive. The lecture portion of the course introduces the student to the systems of the human body while the laboratory portion of the course allows the student the opportunity to explore the physiology of these systems. Dissection of non-human biological specimens is required. Prerequisite: BIOL 211.

BIOL 222 Microbiology (4)
Microbiology provides the student with the basic scientific principles of microorganisms. The course is a study of microorganisms with an emphasis on bacteria and viruses: morphology, physiology, genetics, culturing techniques, identification, control, disease, and disease resistance of microbes. This course is designed to provide the student with general knowledge of microbiology to apply to other science and medical courses. (Biology 2514 - Area III)

BIOL 250 Comparative Vertebrate Anatomy (4)
This course presents an introduction to the anatomy of vertebrate animals. Students will explore the basic structure and functions of vertebrates including the skeleton, musculature and physiological systems. Laboratory exercises will emphasize the skeleton of mammals including humans, birds, and reptiles using real specimens and will include examination of fossil vertebrates and virtual dissections on computers. Prerequisite: BIOL 113 Introduction to Biology, or an Animal Science Class, or a Farrier Science Class, or consent of instructor.

Business

BLAW 202 Introduction to Business Law (3)
Introduction to Business Law provides a general introduction to the legal framework of business. The principal area of concentration is on contracts. Other topics include bailments, sales, commercial paper, and personal property. Principal and agent relationships are covered.

BUS 100 Principles of Keyboarding (3)
This course is recommended for students with no previous instruction in typing. Instruction includes alphabetic and numeric keyboard fingering, as well as the use of proofreading marks. Emphasis is placed on speed building using specialized computer software.

BUS 101 Introduction to Business (3)
This course is designed to give the student an overview of business principles, practices and procedures. Topics include marketing, management, economics, finance, accounting, business ethics and the international environment. Methods and practices used in business are surveyed.

BUS 103 Business Mathematics (3)
All areas of business math are covered in this course, from basic math to business statistics. The students are exposed to payroll, taxes, investments, depreciation and more. This course gives students a well-rounded sense of math that is used in business today.

BUS 110 Records Management (3)
This course is an introduction to the principles, methods and procedures for the selection, operation and control of records management training on a microcomputer with emphasis on filing methods used in the business environment.

BUS 113 Machine Transcription (3)
Emphasis in this course is on the development of typing speed and accuracy in transcribing from taped dictation, as well as the use of proper formatting, punctuation, spelling, and grammar while transcribing business documents.

BUS 190 Internship in Business (1-3)
This course offers 1-3 credits in a supervised work program. The first-year student is employed in an approved business occupation. Students will be supervised and rated by the employer and instructor. Students will meet in a weekly class and/or report on a variety of films, reading, or seminars. Prerequisite: Consent of the instructor.

BUS 203 Office Systems (3)
This course provides an overview of the business office from a management viewpoint. Topics include management of information systems, principles of office organization, office functions, and office physical environment, as well as staff orientation and training, forms design and control, job analysis, and work measurement and standards. Prerequisite: BUS 100 or equivalent.

BUS 212 Advanced Keyboarding (3)
This course is recommended for students with previous typing experience. Students in this course will develop speed and accuracy as well as practice in the use of mailable business letters, advanced tables, business forms, reports and memorandums. Emphasis is placed on increasing speed and accuracy. Prerequisite: BUS 100

BUS 221 Business Communications (3)
This course introduces the fundamentals of writing both formal and informal reports and other forms of business communication. Included is the study of interpersonal communication and worldwide business communication. Students are encouraged to take ENG 102 prior to taking this course.

BUS 225 Principles of Salesmanship (3)
This course presents valuable training and insights on how to identify sales prospects and develop and maintain good sales relationships. Principles are demonstrated in practice through first-hand stories of professional sales people. This course examines and evaluates problems related to the field of personal selling.

BUS 289 Independent Study in Business (1-3)
This is an individual, directed study arrangement with the instructor. Prerequisite: Consent of the instructor.

BUS 290 Internship in Applied Business (1-3)
This course offers 1-3 credits in a supervised work program. The student is employed in an approved business occupation. Students will be supervised and rated by the employer and instructor. Students will meet in a weekly class and/or report on a variety of films, readings, or seminars. Prerequisite: Consent of the instructor.

BUS 293 Special Topics in Business (1-3)
This course is related to a special topic in the field of business. The topic will be identified in the course schedule. The course may be repeated with a content change.

ECON 100 Applied Economics/ Governmental Roles (3)
This course is an introduction to economics. Subtitles may vary by semester. This class will focus on a combination of any of the following economic

concepts: A. Producing, B. Exchanging, C. Consuming, D. Saving, E. Investing. This course will integrate contextual learning into the study of economics and will be a very "hands-on," interactive course including group projects and observation of economic concepts operating in a variety of fields.

ECON 251 Macroeconomics (3)
This course introduces economic theory in areas of national income, employment price stability and growth. Money and banking is studied from the perspective of its role in generating full employment at an income level which results in price stability. Additional topics such as international trade and economic development are discussed. Prerequisite: MATH 101. (ECON 2113 - Area IV)

ECON 252 Microeconomics (3)
This course provides students with an introduction to the basic concepts and issues in economics. Topics will include the microeconomic forces influencing the decisions of producers and consumers in the market place. Additionally, this course introduces factors affecting industry and firms, demand, supply, cost, pricing and output policies. (ECON 2123 - Area IV)

ECON 261 International Economics (3)
This course explores the prominent forces and core concepts of international economics and the relationships of nations and economic policy. It offers fresh perspectives on major world events of the last 40 years and recent economic milestones, such as the European Economic Community and the economic transformation of Russia and Eastern Europe.

FIN 101 Personal Finance (3)
This introductory course in finance includes information on all the financial decisions the average person faces: budgeting, buying, home ownership, income tax, investments, insurance, wills, and trusts. This course is designed for both business and non-business majors.

FIN 114 Principles of Finance (3)
This course introduces the basic elements of business finance: institutions and markets, review of financial statements, financial analysis of forecasting, working capital management, capital budgeting, cost of capital, long term financing, investing, and international business finance. Prerequisite: ACCT 111.

MGT 113 Principles of Management (3)
This course provides a fundamental orientation to management with an emphasis on current trends and issues. Topics include the management process and the decision making process, as well as the art and science of management. Emphasis is placed on the functions of management.

MGT 115 Small Business Management (3)
This course is designed to introduce business management principles used in a proprietorship. Setting up a business, record keeping, customer relations, and marketing strategies are among the topics covered in this course. Students planning to start their own business should benefit from this course.

MGT 201 Business Management (3)
Topics in this course include the market survey to determine demand, factors of location, financing, legal forms, purchasing and inventory control, compilation of financial statements, budgeting and cash flow control, marketing and merchandising, pricing and promotion, business risk and insurance, the use of computers in business, and the business plan. Prerequisites: ACCT 111 and MGT 113.

MGT 213 Human Resource Management (3)
This course focuses on the principles, policies, and practices of human resource planning, job analysis and design, recruitment, selection, training and development, employee and labor relations, compensation, and occupational health and safety in organizations.

MGT 253 Business Policy (3)
This capstone course explores the operations of various organizations. An emphasis is placed on the integration and formulation of the major functional areas within an organization. The case method is used to provide practical experience in evaluating, analyzing, and solving organizational problems. Prerequisite: Sophomore Standing; BUS 101, MGT 113, ACCT 210, BLAW 202, BUS 221 and ECON 251 or ECON 252 (Corequisite).

MKT 115 Principles of Marketing (3)
This study of marketing principles emphasizes all functional areas and institutions of marketing, including channels, promotion, consumer behavior, pricing and retailing. Marketing research, industrial buying and international implications are covered. Emphasis is placed on marketing today and global marketing.

MKT 120 Advertising and Promotion (3)
This course is designed to introduce the student to the field of advertising and promotion. The emphasis will be on the role of advertising and promotion in the marketing communications program of an organization. Topics include coverage of functional areas, such as direct marketing, sales promotion, publicity, print and electronic media advertising, and marketing on the Internet. Coverage will also include the processes of planning, developing, and implementing the promotional program.

MKT 215 E-Commerce (3)
Any electronic exchange of information used in conducting business, including buying and selling goods and services and distributing information is called electronic commerce (E-Commerce). In this course students will gain hands-on skills necessary to gather corporate or personal information, make a purchase online, develop an effective company Web site, or find a global trading partner. Basic computer literacy is required for this course.

Building Trades

BT 101 Introduction to Building Trades (3)
This course is a comprehensive study of basic building trades. Topics include careers in construction, education and training necessary for licensing, entrepreneurship and self employment, employability skills, how to seek employment, and responsibilities on the job. This course will teach methods used to become employed in the building trades and skills necessary in the building trades such as building codes and planning, designing and drawing and reading plans, and estimating and scheduling construction projects.

BT 102 Basic Carpentry (3)
This course is a comprehensive study of basic carpentry. Topics include shop safety, proper use of hand tools, identification, and use of methods of application of materials used in the construction industry. This course will teach the methods used to plan and complete a project.

BT 111 Introduction to Framing (3)
This course is a hands-on study of basic framing. Topics will include wood as a building material, engineered lumber, engineered panel products, framing methods, floor framing, wall framing and sheathing, basic roof framing, rafter types, trusses and roof assembly.

BT 112 Construction Technology II (3)
Topics in this course are site layout, distance measurement and leveling, handling and placing concrete. Students will be introduced to the construction of floor systems, wall, ceiling, and roof framing, and will learn how the various trades fit into the building process.

BT 115 Fundamentals of Framing (3)
This course is a hands-on study of basic framing. Topics will include wood as a building material, engineered lumber, engineered panel products, framing methods, floor framing, wall and ceiling framing, roof framing, rafter types, trusses and roof assembly. Other topics include framing of windows, exterior doors and basic stair layout.

BT 116 Blueprint Interpretation (3)
This course introduces students to the skills necessary for reading blueprints. Students will explore projections and views, technical sketching, and the use of blueprints in construction. Instruction will also include information on graphic and pictorial representation, working drawings and structured building details.

BT 121 Construction Technology III (3)
Topics in this course build on Construction Technology II and students will receive advanced training in constructing floor systems, wall, ceiling, and roof framing, the installation of exterior doors and windows, and will learn firsthand how the various trades fit into the building process as they participate in "hands-on" training at the project house building site.

BT 122 Interior Finishing (3)
This course is a comprehensive study of materials and methods used to finish the interior of a constructed building. Topics will include safety, tools, drywall, and fasteners for walls and ceilings, and will introduce interior trim installation. This course will teach the methods, materials, and the estimating required for the ordering of interior finishing materials.

BT 201 Exterior Finishing (4)
This course is a comprehensive study of exterior finishes which includes safety techniques and procedures, roofing applications, thermal and moisture protection, installation of exterior doors and windows, and exterior finishes.

BT 202 Construction Technology IV (4)
Topics in this course build on Construction Technology III. Students will become skilled at advanced construction techniques including site layout, floor systems, wall and ceiling framing, roof framing, roofing applications, exterior finishing, and basic stair layout. They will learn how the various trades fit into the building process as they participate in "hands-on" training on the project house.

BT 250 Computer Aided Drafting (4)
This is a beginning course providing instruction in mastering fundamental AutoCAD Lite commands and drawing techniques. Typical applications of AutoCAD are presented with basic drafting and design concepts. The topics are covered in an easy to understand sequence and progress in a way that allows students to become comfortable with the commands as their knowledge builds.

BT 260 Project Management (4)
Topics in this course include pre-construction planning, project management, contracts, and fiduciary responsibilities. Students will learn the basics of project preparation, scheduling, project documentation, accountability and the pros and cons of a well-organized project.

Business Office Technology

BUS 100 Principles of Keyboarding (3)
This course is recommended for students with no previous instruction in typing. Instruction includes alphabetic and numeric keyboard fingering, as well as the use of proofreading marks. Emphasis is placed on speed building using specialized computer software.

BUS 101 Introduction to Business (3)
This course is designed to give the student an overview of business principles, practices and procedures. Topics include marketing, management, economics, finance, accounting, business ethics and the international environment. Methods and practices used in business are surveyed.

BUS 103 Business Mathematics (3)
All areas of business math are covered in this course, from basic math to business statistics. The students are exposed to payroll, taxes, investments, depreciation and more. This course gives a student a well-rounded sense of math that is used in business today.

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This course is an introduction to the principles, methods and procedures for the selection, operation and control of records management training on a microcomputer with emphasis on filing methods used in the business environment.

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Emphasis in this course is on the development of typing speed and accuracy in transcribing from taped dictation, as well as the use of proper formatting, punctuation, spelling, and grammar while transcribing business documents.

BUS 190 Internship in Business (1-3)
This course offers 1-3 credits in a supervised work program. The student is employed in an approved business occupation. Students will be supervised and rated by the employer and instructor. Students will meet in a weekly class and/or report on a variety of films, reading, or seminars. Prerequisite: Consent of the instructor.

BUS 203 Office Systems (3)
This course provides an overview of the business office from a management viewpoint. Topics include management of information systems, principles of office organization, office functions, and office physical environment, as well as staff orientation and training, forms design and control, job analysis, and work measurement and standards. Prerequisites: BUS 100 or equivalent.

BUS 221 Business Communications (3)
This course introduces the fundamentals of writing both formal and informal reports and other forms of business communication. Included is the study of interpersonal communication and worldwide business communication. Students are encouraged to take ENG 102 prior to taking this course.

Chemistry

CHEM 113 General Chemistry (4)
This course explores all the realms of basic chemistry. Students will examine and explore such topics as the periodic table, the structure of atoms and molecules, chemical properties, chemical reactions, chemical equations, bonding, chemical equilibrium and scientific laboratory procedures. Laboratory exercises are included. Prerequisite: MATH 099. (CHEM 1114 - Area III)

CHEM 115 Introduction to Chemistry I (4)
This course is the first of a sequence of two surveying the principles that underlie all chemistry. Topics will include: the Periodic Table of Elements, atomic and molecular structure, nomenclature, chemical equations and formulas, the mole, chemical reactions in solution, thermochemistry, the Ideal Gas Law, quantum numbers, periodic trends of the elements, bonding, molecular structure, and phase transitions. Laboratory included. Prerequisite: MATH 101. (CHEM 1214 - Area III)

CHEM 116 Introduction to Chemistry II (4)
This course is the second of a sequence of two surveying the principles that underlie all chemistry. Topics will include: solutions, chemical kinetics and equilibrium, acidic and basic solutions, electrochemistry, chemical thermodynamics, nuclear chemistry, and an introduction to organic chemistry. Laboratory included. Prerequisite: CHEM 115 or consent of the instructor. (CHEM 1224 - Area III)

Communications

COM 101 Interpersonal Communication (3)
This course provides an opportunity for development of communication skills necessary for effective interactions on an interpersonal level and in small groups. Theoretical dimensions of interpersonal communication are explored.

The course provides opportunities for practical application. A lab is required.

COM 102 Public Speaking (3)
Public Speaking is a course designed to acquaint students with rhetorical skills necessary to effectively communicate orally. The communication process is studied, including intrapersonal, interpersonal, small group and public communication. The student will be required to present a variety of speeches, including informative, entertainment, demonstrative, impromptu and persuasive.

COM 134 Introduction to Journalism (3)
This course is a practical introduction to journalism which emphasizes journalistic conventions as well as gathering and writing news for the print and broadcast media. Students will learn proven, as well as new and less conventional, journalistic techniques and writing styles.

Computer Information Systems

CIS 100 Computers for Beginners (3)
Students who have never been exposed to a computer often choose this course. This course is designed to introduce students to the computer and to let them get comfortable with the equipment. Students learn the basics of Windows and keyboarding and are given a brief tour of word processing software. This course may be nontransferable.

CIS 101 Introduction to Computers (4)
This course is designed to provide an introduction to computers and information processing for students desiring to learn what a computer is, how a computer functions, and how a computer is controlled. Word processing, spreadsheet, database, and presentations software are introduced. Students are also introduced to computer-related occupations and learn how a computer is applied to the solution of business and related problems in a modern society. Out-of-class computer work is required.

CIS 103 Computer Concepts (3)
Students will start with some basic terminology used in the computer industry. Students will explore the history of the computer and try to look to the future of the computer. Students will also take notice of how the computer impacts our everyday lives.

CIS 104 Introduction to the Internet (4)
This course will introduce students to the World Wide Web (www) and inform them of the advantages and disadvantages of accessing the Internet. Students will learn how to do searches on the web and how to use a browser. Finally, the students will be shown how to make their own home page. Out-of-class computer work is required.

CIS 106 BASIC Programming (4)
Students are provided with a comprehensive understanding of the VISUAL BASIC programming language as used with the microcomputer. Proficiency is developed as students code, test, and debug several VISUAL BASIC programs in the interactive and batch modes. In addition to learning graphics, students will deal with files and array processing. Out-of-class computer work is required. Prerequisite: CIS 101.

CIS 107 Database Applications (4)
Students are provided with a working knowledge of a popular database package. They will learn to create a database, do sorts, and create reports. Students will also learn to create queries and to understand the techniques used in modifying the database. Out-of-class computer work is required.

CIS 108 Spreadsheet Applications (4)
Students are provided with a working knowledge of a popular spreadsheet package. Students will learn to create worksheets, charts, and graphs. Reporting techniques that add pizzazz to reports will be discussed. Database techniques are covered in order to allow the student full use of spreadsheet software. Out-of-class computer work is required.

CIS 116 Windows (4)
In this course students are provided with a working knowledge of Windows. Students will learn how to perform commands that were done in DOS. Details of the use of Windows will be discussed in order for students to receive maximum advantage of Windows. Out-of-class computer work is required.

CIS 120 Computer Finance (4)
Students are provided with a working knowledge of a popular financial package. Students will learn to create accounts registers. Reporting techniques that assist the student to track finances will be discussed. Students will learn how to use a financial package for both home and business. Out-of-class computer work is required.

CIS 129 Introduction to Internet Learning (1)
Students are provided with a working knowledge of the Web courses. Students in this class learn to utilize the terms used in the Web course in order to allow successful completion of the Mesalands Community College Internet classes. Students also learn how to use Web instruction to submit homework, use the class discussion board and send email within Web courses. Out-of-class computer work is required.

CIS 130 WebCT Orientation (1)
Students are provided with a working knowledge of the WebCT. Students in this class learn to utilize the terms used in the WebCT in order to allow successful completion of the Mesalands Community College Internet classes using WebCT. Students also learn how to use WebCT to submit homework, use the class discussion board and send email within WebCT. Out-of-class computer work is required.

CIS 131 Fundamentals of Computers (1)
This course is designed to provide an introduction to computers and information processing for students desiring to learn what a computer is, how a computer functions, and how a computer is controlled. Word processing, spreadsheet, and presentations software are introduced. Out-of-class computer work is encouraged.

CIS 132 Basics of Windows (1)
This course provides a brief overview of the Windows operating system. Students will learn basic Windows commands which will enable them to maneuver easily within a Windows operating environment. This course is designed to provide students with basic knowledge, as well as hands-on experience to allow students to become computer literate in Windows.

CIS 133 Basics of Excel (1)
This course is designed as an introduction to the electronic spreadsheet -- specifically how to use, design and edit spreadsheets for use in a variety of personal and business applications. Microsoft Excel will be the specific software application students are exposed to. Out-of-class computer work is encouraged.

CIS 134 Basics of Lotus 1-2-3 (1)
This course provides a brief overview of the spreadsheet application package, Lotus 1-2-3. Students will learn to create basic worksheets, charts, and graphs. This course is designed to provide students with basic knowledge as well as hands-on experience to allow students to become computer literate in Lotus 1-2-3.

CIS 135 Basics of Internet I (1)
This course provides a basic overview of the Internet and the World Wide Web (www). Students will learn the basics of the Internet. The advantages and disadvantages of using the Internet for business and personal reasons will also be explored. This course is designed to provide students with basic knowledge as well as hands-on experience to allow students to become computer literate in using the Internet as a resource.

CIS 137 Basics of WordPerfect (1)
This course provides a brief overview of the word processing application package, WordPerfect. Students will learn to create basic documents such as letters and memos. This course is designed to provide students with basic knowledge as well as hands-on experience to allow students to become computer literate in WordPerfect.

CIS 138 Basics of Word (1)
This course provides a brief overview of the word processing application package, Word. Students will learn to create basic documents such as letters and memos. This course is designed to provide students with basic knowledge as well as hands-on experience to allow students to become computer literate in Word.

CIS 139 Quickbooks Pro (1)
This course is designed for students who are computer literate, but are not familiar with the proper business application of QuickBooks Pro. Students will be involved in activities that provide opportunity for the basic understanding and use of QuickBooks Pro. A sample business will be used as a demonstration model; then students will input actual business data in all areas required to meet their business needs.

CIS 140 Quicken (1)
This course provides a brief overview of the financial accounting application package, Quicken. Students will learn the basics of bookkeeping and financial reporting in a computerized environment. This course is designed to provide students with basic knowledge as well as hands-on experience to allow students to become computer literate in Quicken.

CIS 141 Basics of Database (1)
This course provides a brief overview of the database application package, DBASE. Students will learn the basics of creating a database, performing sorts, and creating reports. This course is designed to provide students with basic knowledge as well as hands-on experience to allow students to become computer literate in database applications.

CIS 142 Basics of Desktop Publishing (1)
In this course students will learn to use several of the leading desktop publishing software packages. Students will learn how to set up templates, do layouts and work with a variety of fonts and styles in order to prepare documents that are copy ready. Students will also learn to place graphics and wrap text around the graphics. Out-of-class computer work may be required.

CIS 143 Basics of Graphics Applications (1)
In this course students will learn to use several of the leading presentation software packages. Students will learn how to set up templates, do layouts and work with a variety of fonts and styles in order to prepare documents that are copy ready. Students will also learn to place graphics and wrap text around the graphics. Out-of-class computer work may be required.

CIS 144 Basics of Outlook (1)
This course provides a brief overview of Microsoft Outlook. Students will learn to work and manage with e-mail, calendar appointments and contacts, keep journal entries, and manage folders. This course is designed to provide students with basic knowledge as well as hands-on experience to allow students to become computer literate in Microsoft Outlook.

CIS 145 Basics of Photoshop (1)
This course provides a brief overview of the Photoshop application. Students will learn to create and manipulate basic images. This course is designed to provide students with basic knowledge as well as hands-on experience to allow students to understand Photoshop's basic tools.

CIS 146 Basics of PageMaker (1)
This course provides a brief overview of the PageMaker application. Students learn about the basic tools, placement of art and type manipulation. Out-of-class computer work may be required.

CIS 148 Basics of Web Design (1)
In this course the student will learn the basics of Web design. The student will be given the terminology necessary to understand the components that make up the effective Web site. Student examples give the student a real world look at Web Design.

CIS 150 Introduction to Digital Photography (3)
In this course, the student will learn about the use of digital photographic equipment and its relationship to computer image manipulation. Fundamental photographic techniques showing how to successfully capture images will be demonstrated and comparisons of different types of digital cameras and their unique nomenclature will be discussed.

CIS 155 Introduction to Photoshop (4)
In this course the student will learn to use Photoshop as an image creation and manipulation tool. Students will learn about the Photoshop tools, menus and palettes and how to employ these features in the manipulation of images. Students will also learn how to create original artistic images using the computer with this software. Students will learn how to work with type and apply special effects to type. Out-of-class computer work will be required. Prerequisite: Student should have a basic knowledge of the Windows operating system.

CIS 161 Intermediate Computing (4)
This course is a continuation of CIS 101 Introduction to Computers. This is the second course in a series of three that prepare the student to become Microsoft Office Specialist (MOS) certified. Wordprocessing, spreadsheet, database, and presentations software are continued with intermediate skills being obtained. Out-of-class computer work is required. Prerequisite: CIS 101.

CIS 201 Word Processing Applications (4)
Students are provided with a working knowledge of a popular word processing package. Students will create documents and learn several techniques that can be used to enhance a document's appearance. A variety of applications will be taught to allow the students to get the most out of the word processor. Out-of-class computer work is required.

CIS 202 Advanced Word Processing (4)
CIS 201 is a prerequisite for this course, as it continues to develop the knowledge that students have already acquired. Students will learn to merge documents, develop templates, and utilize other time saving features. Out-of-class computer work is required. Prerequisite: CIS 201.

CIS 203 C Programming (4)
Students are introduced to the capabilities and potentials of the C language. C allows students to program a wide variety of tasks, since C can do both applications programming and system programming. Students will study the uses in the applications programming area. Out-of-class computer work is required. Prerequisite: CIS 101.

CIS 210 Graphics Applications (4)
Students are provided with a working knowledge of a graphics package. Students in this class learn to create a variety of charts and templates, and to develop slide shows. Students also learn how to import graphics and develop a presentation in a variety of styles. Out-of-class computer work is required.

CIS 211 Advanced Computing (4)
This course is a continuation of CIS 161 Intermediate Computing. This is the third course in a series of three that prepare the student to become Microsoft Office Specialist (MOS) certified. Wordprocessing, spreadsheet, database, and presentations software are continued with advance skills being obtained. Out-of-class computer work is required. Prerequisite: CIS 161.

CIS 221 Database Programming (4)
Students will learn to develop an application by using 4GL programming techniques. Students will develop forms, menus, and general applications that allow the use of the database tables in a simpler form. Out-of-class computer work is required. Prerequisite: CIS 107.

CIS 222 Desktop Publishing (4)
Students will learn one of the leading desktop publishing software packages. Students will learn how to set up templates, do layouts, and work with a variety of fonts and styles in order to prepare documents that are copy ready. Students will also learn to place graphics and wrap text around the graphics. Out-of-class computer work is required.

CIS 245 Intermediate Photoshop (4)
In this course the student will learn to use the most recent version of Photoshop as an image creation and manipulation tool. Students will learn about images, how to manipulate images using Photoshop's special tools and palettes and how to create artistic images using the computer with this software. Students will learn how Photoshop has become a text creation and manipulation application as well. Creative techniques commonly used in the graphics industry will be practiced. Out-of-class computer work will be required.

CIS 250 Computer Aided Design (4)
This is a beginning course providing instruction in mastering fundamental AutoCAD 2007 commands and drawing techniques. Typical applications of AutoCAD are presented with basic drafting and design concepts. The topics are covered in an easy to understand sequence and progress in a way that allows students to become comfortable with the commands as their knowledge builds.

CIS 293 WebCT Basics (1)
This course is designed to acquaint new users of WebCT with the process of creating online courses, which may be used for teaching online web-based courses or for complementing traditional courses with online WebCT components.

CIS 295 Student Project (4)
Students will be assigned a task that will encompass all of the courses taken in their chosen course of study. The task will be determined by a CIS faculty member. Arrangements for this course must be made with the CIS faculty member prior to enrollment. Out-of-class computer work is required. Requirement: Must be taken in a student's final semester at Mesalands Community College.

Computer Science

CS 140 Introduction to Computer Forensics (3)
Introduction to Computer Forensics presents methods to properly conduct a computer forensics investigation beginning with a discussion of ethics, while mapping to the objectives of the International Association of Computer Investigative Specialists (IACIS) certification. Students should have a working knowledge of hardware and operating systems to maximize their success on projects and exercises throughout the course.

CS 150 Operating Systems (3)
Throughout this course the student will learn the general concept of operating systems, including how system-level software works with your computer hardware. Detail descriptions of individual operating systems--DOS, Windows and various configurations, MAC OS, and Unix will be covered throughout the course. The student will also learn how each of these systems works with specific hardware components.

CS 160 Introduction to HTML (3)
Throughout this course the student will learn the general concept of HTML, including how the software works with your computer hardware. Students will receive Web development techniques along with basic Web design.

CS 205 Java Programming (4)
Throughout this course the student will learn the general concept of Java programming. The student will be guided as a beginning programmer in developing applications and applets using the Java programming language. A step-by-step approach will be used in exercises that illustrate the concepts being explained, reinforcing the students' understanding and retention of the material.

CS 210 Network Security (3)
Throughout this course the student will learn the general concepts and importance of network security. The course uses hands-on projects, case projects, and lectures to provide the student with the necessary information to develop a network security plan that can be used in a real-world environment.

CS 215 Java Script (3)
Throughout this course the student will learn the general concept of JavaScript programming. This course is designed to provide a guide for the beginning programmer to develop Web applications. A step-by-step approach using exercises that illustrate the concepts being explained, reinforcing understanding and retention of the materials presented.

CS 216 Web Programming (3)
Throughout this course the student will learn the general concept of Web programming. The student will be guided through using a step-by-step approach with examples and detailed instructions on each task to be completed. Student examples give the student a real world look at Web programming.

CS 217 Active Directory (3)
This course prepares a network professional to work in medium to very large computing environments that use the Windows network operating system. With the increased demand for network professionals who can design flexible, usable directory service implementations that can properly advertise and support all necessary network services, as well as the users and groups who make use of them.

CS 220 Cisco Networking (3)
Throughout this course the student will learn the general concept of Cisco networking. The student will be guided through using a step-by-step approach with examples and detailed instructions on each task to be completed. Student examples give the student a real world look at Cisco networking used in LANs and WANs routing and switching.

CS 225 Web Site Design (3)
Throughout this course the student will learn the general concept of Web Site Design. The student will be guided through using a step-by-step approach with examples and detailed instructions on each task to be completed. Student examples give the student a real world look at Web Site Design.

CS 230 Introduction to TCP/IP (3)
Throughout this course the student will learn the general concept of TCP/IP protocol. The student will be guided through using a step-by-step approach with examples and detailed instructions on each task to be completed. Student examples give the student a real world look at TCP/IP communication architecture used in LANs and WANs on which they are implemented.

CS 231 Introduction to Proxy Server (3)
Throughout this course the student will learn the general concept of Proxy Server. The student will receive extensive working knowledge of the Microsoft Proxy Server product and prepare the student to take the MACE Certification test for Proxy Server. The course uses hands-on projects, case projects, and lectures to provide the student with the necessary information to pass the test and work with Proxy Server in the real-world environment.

CS 235 Database Web Design (3)
Throughout this course the student will learn the general concept of database driven Web Design. This course enables individuals to create websites which can display, insert, update, and delete data from a database. It provides foundational material on Web concepts, relational database principles, SQL and HTML. Prerequisite: CS 225.

CS 240 Introduction to Support Services (4)
This course is designed to provide an introduction to computer support services for students desiring to learn what is necessary to provide user support. Students will learn the importance of needs assessment, training users, and troubleshooters. Students are also introduced to computer-related occupations and learn the importance of computer support and how to apply to the solution of business and related problems in a modern society.

CS 245 Systems Analysis and Design (4)
This course is designed to provide the tools necessary to design and implement computer systems. Students will learn the importance of System Development Life Cycle, Program Life Cycle, and analysis of designs. Students are also introduced to computer-related occupations and learn the importance of network and how to apply to the solution of business and related problems in a modern society.

CS 246 Introduction to Networking I (4)
This course is designed to provide an introduction to networking for students desiring to learn what is necessary to network computers. Students will learn the importance of standards, wiring, and LAN design. Students are also introduced to computer-related occupations and learn the importance of network and how to apply to the solution of business and related problems in a modern society.

CS 247 Introduction to Computer Maintenance (4)
Throughout this course the student will learn all of the technical skills necessary to become an A+ certified technician. These skills will be learned through a series of hands-on lab exercises and review questions designed to teach and improve the PC configuration and troubleshooting skills which are necessary to function as a PC support or helpdesk technician.

CS 256 Introduction to Networking II (4)
This course is a continuation of CS 246. The use of hands-on approach and its orientation to real-world situations and problem solving allows students to expand their knowledge of networking. Windows and Novell are the operating systems that will be used throughout the course. Prerequisite: CS 246.

CS 257 Computer Maintenance II (4)
This course is a continuation of CS 247. Throughout this course the student will continue to learn all of the technical skills necessary to become an A+ certified technician. These skills will be learned through a series of hands-on lab exercises and review questions

designed to teach and improve the PC configuration and troubleshooting skills which are necessary to function as a PC support or helpdesk technician. Prerequisite: CS 247.

CS 290 Internship in Applied Computer Science (3)
This course offers 3 credits in a supervised work program. The first-year student is employed in an approved business occupation. Students will be supervised and rated by the employer and instructor. Students will meet in a weekly class and/or report on a variety of films, readings, or seminars. Prerequisite: Consent of the instructor.

CS 295 Student Project (4)
Students will be assigned a task that will encompass all of the courses taken in their chosen course of study. The task will be determined by a CS faculty member. Arrangements for this course must be made with the CS faculty member prior to enrollment. Out-of-class computer work is required. Requirement: Must be taken in a student's final semester.

Criminal Justice

CRJU 101 Handgun Training (1)
The Handgun Training course is designed to prepare students to obtain a license to carry a concealed handgun. This course covers the safe handling and storage of handguns, as well as strategies for home and personal safety. This training course incorporates classroom instruction with the live firing of a handgun as required by the New Mexico statutory course requirements.

CRJU 102 Introduction to Criminal Justice (3)
This is an introductory course in the history and philosophy of the United States criminal justice system. The legislative and constitutional framework of the system is covered and each of the major components (the police, corrections, and industrial security) is examined. Career opportunities are discussed.

CRJU 141 Criminal Investigation (3)
This course is an introduction to procedures employed in the investigation of criminal offenses, including history, theory, techniques, aids, collection, and preservation procedures which ensure evidentiary integrity. Various interviewing techniques which are utilized in soliciting information from witnesses, victims, and persons suspected of criminal activity will be explored. Courtroom evidentiary procedures and techniques will be introduced.

CRJU 202 Criminal Law (3)
This course is an introduction to the various municipal, state, and federal criminal laws which were enacted for the protection of the American populace. Felony as well as misdemeanor crimes will be discussed. In order for the student to obtain a full understanding of criminal law the history and scope of the criminal judicial process will be explored. Prerequisite: CRJU 102.

Defensive Driving

TDC 114 Defensive Driving (.5)
This course focuses on collision prevention through hazard recognition and application of collision-avoidance techniques. In addition, the course addresses common driving violations that result in collisions and how to change driving habits to eliminate moving violations. Throughout the course, participants learn how to recognize both potential and immediate hazards, how to avoid collisions in a variety of driving conditions and how to choose safe and legal driving behaviors. The emphasis is on identifying and choosing safe and legal behind-the-wheel behaviors and actions.

Diesel Technology

DMT 151 Shop Essentials (2)
This course is a comprehensive study of Basic Shop Safety. Topics include the study of Personal Safety, Work Area Safety, Shop Tool Safety, Hazardous Materials, Handling of Hazardous Waste, Shop Records, Hand Tools, Power Tools, Measuring Tools, Manufacturers' Service Publications and Fasteners. This will be a co-requisite course for any new incoming students taking any Diesel courses.

DMT 155 Engine Fundamentals (3)
This course is a comprehensive study of engine fundamentals. Topics include the study of engine terminology, the four-stroke cycle, the two-stroke cycle, the Otto cycle, engine systems and circuits, a history of the modern Diesel engine, definitions and formulas common to the reciprocating engine, power calculations, and assessment of needed power for specific applications.

DMT 156 Diesel Engine Rebuild (3)
This course is a comprehensive study of diesel engine rebuild. Topics include the study of engine power train components, engine feedback assembly, engine housing components, engine lubrication systems, engine cooling systems, engine breathing, engine retarders, engine removal, disassembly, cleaning, inspection and reassembly guidelines. Students will become familiar with the different features of Detroit, Cummins, and Caterpillar engines.

DMT 157 Hydraulic Fundamentals (3)
This course is a comprehensive study of Hydraulic Fundamentals. Topics include the study of hydraulic reservoirs, lines, fittings, and couplers, seals, fluids and filters, pumps, valves, cylinders, motors, accessories, hydraulic circuits, diagrams and symbols, general and preventative maintenance, diagnosis and testing.

DMT 165 Mechanical Fuel Systems (3)
This course is a comprehensive study of mechanical fuel Systems. Topics include the study of chemistry and combustion, diesel fuel, fuel systems, hydro mechanical injection principles, hydraulic injector nozzles, port-helix metering injection pumps, detroit diesel mechanical unit injection, caterpillar mechanical unit injection, Cummins PT, rotary distributor pumps, governors, alternate fuels, failure analysis, troubleshooting and diagnoses strategies.

DMT 166 Electricity Fundamentals (3)
This course is a comprehensive study of Electricity Fundamentals. Topics include the study of atomic structure and electron movement, conductors and insulators, current flow, magnetism, electromagnetism, electrical current characteristics and sources of electricity, electrical circuits and Ohm's Law, capacitance, coils, transformers and solenoids, semiconductors, diodes, transistors, testing semiconductors, photonic devices, using electronic signals, battery operating principles, and battery ratings.

DMT 167 Diesel Electronics (3)
This course is a comprehensive study of Diesel Electronics. Topics include the study of computer terminology, a brief history of computers, computer hardware, electronically represented data, summary of computer operation and the processing cycle, networking and communications in the trucking industry, vehicle computer systems, electronic service tools, electrical wiring, connector/terminal repair, and multiplexing.

DMT 168 Applied Diesel Electricity and Electronics (3)
Lab experiences in Applied Diesel Electricity and Electronics. This course includes analysis and repair of areas and systems and involves use of proper methods, tools, specifications and equipment. And this course also includes the proper use of tools, scanners, and other equipment to diagnose the computers, sensors and actuators, along with the repair and adjustment of the computerized fuel, timing, and emission systems.

DMT 169 Electronic Fuel Systems (3)
This course is a comprehensive study of Electronic Fuel Systems. Topics include the study of Bosch Electronic Distributor and Common Rail Systems, Mack Trucks and V-MAC , Detroit Diesel Electronic Controls (DDEC) Caterpillar ADEM and Volvo VECTRO EUI Systems, Cummins CELECT, Bosch EUP on V-MAC III-E-Tech and Mercedes-Benz, Caterpillar and International Trucks HEUI, Cummins HPI-TP, Cummins Accumulator Pump System and Emissions.

DMT 190 Internship in Diesel Technology (3)
Students in this course receive on-the-job experience in a dealership, national chain service facility or independent repair facility under the direct supervision of the program instructor. Students utilize the skills and knowledge acquired in the previous year. Students will be able to base future employment decisions on the experience received. Note: Students who complete two full semesters of diesel courses and are not employed, may sign up for this course and take it as a Capstone Lab or a combination of each.

D**MT 275 Hydraulic Brake Systems (3)**
This course is a comprehensive study of Hydraulic Brake Systems. Topics include the study of hydraulic brake fluid, air-over-hydraulic brake systems, hydraulic brake service procedures, hydraulic antilock braking systems, and hydraulic brake system components; master cylinders, hydraulic drum brakes, servo and non-servo types.

DMT 276 Air Brake Systems (3)
This course is a comprehensive study of Air Brake Systems. Topics include the study of air supply circuit, primary circuit, secondary circuit, dash control and the parking/emergency circuit, trailer circuit, foundation brakes, air brake system components, brake system balance, maintenance and safety, assessment, adjustment, troubleshooting brake systems, and brake certification, inspection, and testing.

DMT 277 Suspension Systems (3)
This course is a comprehensive study of Suspension Systems. Topics include the study of leaf spring-type suspensions, equalizing beam suspensions, torsion bar suspensions, air spring suspensions, spring suspension system servicing, equalizer beam suspension system servicing, air suspension system servicing, suspension alignment, cab air suspensions, driver air suspended seats, and ride analysis.

DMT 278 Preventative Maintenance (3)
This course is a comprehensive study of Preventative Maintenance. Topics include the study of setting up a preventative maintenance program, out-of-service or deadlining a vehicle, preventive maintenance scheduling and record-keeping that conforms to federal inspection regulations, lubricants for the engine, transmission, axle, chassis, trailer, and winterizing.

DMT 280 Heating and Air Conditioning (3)
This course is a comprehensive study of Heating and Air conditioning. Topics include the study of basic principles of refrigeration, refrigerant, the refrigeration cycle, air conditioning systems components, safety precautions, performance testing and equipment for A/C system, A/C service procedures, common A/C problems, cab ventilating and heating systems, liquid cooled heating system, and electronically managed climate control.

DMT 285 Diesel Performance and Diagnostics (3)
This course is a comprehensive study of Diesel Performance and Diagnostics. This is a course designed to expose students to a variety of service and repair procedures that represents work typically found in today's service centers. A strong emphasis will be placed on diagnostic and troubleshooting procedures.

DMT 286 Manual Transmissions (3)
This course is a comprehensive study of Manual Transmissions. Topics include the study of standard transmissions, gearing, gears, gear train configurations, shift mechanism, lever components, countershaft transmissions, transfer cases, power takeoff unit, transmission servicing, lubrication, PM inspections, removal, overhaul, air shift system, clutches, function, basic components, troubleshooting, maintenance and servicing.

DMT 290 Internship in Applied Diesel Technology (3)
DMT 290 is a continuation of DMT 190 Internship in Diesel Technology. This course provides students with additional hands-on experience under the direction of the program instructor.

Education

ECE 103 Professionalism (2)
This course provides a broad-based orientation to the field of early care and education. Early childhood history, philosophy, ethics and advocacy are introduced. Basic principles of early childhood systems are explored. Multiple perspectives on early care and education are introduced. Professional responsibilities such as cultural responsiveness and reflective practice are examined.

ECE 104 Child Growth, Development, and Learning (3)
This basic course in the growth, development, and learning of young children, prenatal through age eight, provides students with the theoretical foundation for becoming competent early childhood professionals. The course includes knowledge of how young children grow, develop, and learn. Major theories of child development are integrated with all domains of development, including biological-physical, social, cultural, emotional, cognitive and language. The adult's role in supporting each child's growth, development and learning is emphasized.

ECE 106 Family and Community Collaboration (3)
This beginning course examines the involvement of families and communities from diverse cultural and linguistic backgrounds in early childhood programs. Ways to establish collaborative relationships with families in early childhood settings is discussed. Families' goals and desires for their children will be supported through culturally responsive strategies.

ECE 107 Assessment of Children and Evaluation of Programs (3)
This basic course familiarizes students with a variety of culturally appropriate assessment methods and instruments, including systematic observation of typically and non-typically developing children. The course addresses the development and use of formative and summative assessment and evaluation instruments to ensure comprehensive quality of the total environment for children, families, and the community. Students will develop skills for evaluating the assessment process and involving other teachers, professionals, and families in the process.

ECE 109 Introduction to Language, Literacy, and Reading (3)
This course is designed to prepare early childhood professionals for promoting children's emergent literacy and reading development. Through a developmental approach, the course addresses ways in which early childhood professionals can foster young children's oral language development, phonemic awareness, and literacy problem solving skills, fluency, vocabulary, and comprehension. This course provides the foundation for early childhood professionals to become knowledgeable about literacy development in young children. Instructional approaches and theory-based and research based strategies to support the emergent literacy and reading skills of native speakers and English language learners will be presented.

ECE 111 Curriculum Development Through Play—Birth Through Age 4 (PreK) (3)
The beginning curriculum course places play at the center of curriculum in developmentally appropriate early childhood programs. It addresses content that is relevant for children birth through age four in developmentally and culturally sensitive ways of integrating content into teaching and learning experiences. Information on adapting content areas to meet the needs of children with special needs and the development of IFSPs is included. Curriculum development in all areas, including literacy, numeracy, the arts, health, science, social skills, and adaptive learning for children, birth through age four, is emphasized.

ECE 112 Practicum for Curriculum Development Through Play—Birth Through Age 4 (PreK) (2)
The beginning practicum course is a co-requisite with the course Curriculum Development through Play—Birth through Age 4. The field based component of this course will provide experiences that address curriculum content that is relevant for children birth through age four in developmentally and culturally sensitive ways of integrating content into teaching and learning experiences. Information on adapting content areas to meet the needs of children with special needs and the development of IFSP's is included. Curriculum development in all area, including literacy, numeracy, the arts, health, science, social skills, and adaptive learning for children, birth through age four, is emphasized.

ECE 113 Health, Safety, and Nutrition (2)
This course provides information related to standards and practices that promote children's physical and mental wellbeing, sound nutritional practices, and maintenance of safe learning environments. It includes information for developing sound health and safety management procedures for indoor and outdoor learning environments for young children. The course examines the many scheduling factors that are important for children's total development, healthy nutrition, physical activity, and rest.

ECE 114 Curriculum Development and Implementation—Age 3 (PreK) through Grade 3 (3)
The curriculum course focuses on developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health and emotional wellness, science, motor and social skills, is emphasized. Information on adapting content areas to meet the needs of children with special needs and the development of IEP's is included.

ECE 115 Curriculum Development and Implementation Practicum—Age 3 (PreK) through Grade 3 (2)
The beginning practicum course is a co-requisite with the course Curriculum Development and Implementation: Age 3 through Grade 3. The field based component of this course will provide experiences that address developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health and emotional wellness, science, motor and social skills is emphasized. Information on adapting content areas to meet the needs of children with special needs and the development of IEP's is included.

ECE 265 Guiding Young Children (3)
This course explores various theories of child guidance and the practical applications of each. It provides developmentally appropriate methods for guiding children and effective strategies and suggestions for facilitating positive social interactions. Strategies for preventing challenging behaviors through the use of environment, routines, and schedule will be presented. Emphasis is placed on helping children become self-responsible, competent, independent, and cooperative learners and including families as part of the guidance approach.

EDU 110 Introduction to Education (3)
This course provides an overview of the teaching profession. An emphasis is placed on the role of education in society today and the changes that have occurred historically in the field of education due to societal demands. Methods of preparation for teacher certification are also covered in this course.

EDU 222 Structured Observations of Teaching (3)
This course is an introduction to the study and practice of teaching. It is primarily intended for students interested in pursuing a career in teaching. The course involves a theoretical component as well as 40 hours of classroom observations. It also includes early field experience in pre-collegiate teaching. This course is required for advancement in the elementary and secondary teacher education programs at most four-year institutions.

English

ENG 102 English Composition (3)
This course covers grammar relative to the sentence and paragraph. Students write essays based on literacy models of narration and description, process analysis, comparison and contrast, division and classification, definition, cause and effect, and persuasion or argument. Students practice critical thinking skills through class discussions and peer reviews. Prerequisite: ENG 100 or appropriate score on the Success/Assessment Placement Test. (ENGL 1113 - Area I)

ENG 104 English Composition and Research (3)
This course teaches method, form and style for research writing. Students are required to prepare a research paper which incorporates approprite research techniques Special interdisciplinary topics may be assigned. The course includes instruction in appropriate sentence structure and syntax, spelling, usage and punctuation. Students also learn to read, analyze and critique short works of literature. Prerequisite: ENG 102. (ENGL 1123 - Area I)

ENG 105 Writing in the Workplace (1)
This course prepares students from all disciplines to be effective communicators in their chosen professions. Students learn to write and prepare documents, including memos, letters, and recommendations. Revision strategies will be addressed to assure accurate

deliverables in the workplace. The class will focus on modern communicative needs required by the extensive use of technology in the workplace. Prerequisite: English 102 is strongly recommended.

ENG 201 Types of Literature (3)
This course is an introduction to one of five literary genres. Subtitles may vary by semesters. The class will focus on either A. Short Story, B. Novel, C. Drama, D. Poetry, or E. Science Fiction. The course may be repeated for credit under different subtitles announced in the current course schedule.

ENG 210 Experiential Learning Portfolio (3)
This course is designed for students who are pursuing the Associate of Applied Science degree, General Studies Field of Study option. The primary objective of the course is to identify, articulate, and document experiential learning experiences in the form of a portfolio that can be evaluated for possible college credit toward the Associate of Applied Science degree.

ENG 211 Introduction to Literature (3)
This course is an introduction to the study and appreciation of literature. Students will examine a variety of literary genres and styles, including the short story, novel, poetry, and drama, as well as mythology, literary terms, basic techniques and styles of each literary form. Students will learn to analyze and evaluate literature and to differentiate certain literary techniques and styles. For English majors and non-majors. (ENGL 2213 - Area I)

ENG 221 British Literature Survey I (3)
This course provides an overview of British literature from Beowulf to the eighteenth century. Readings include representative selections of prose, poetry and drama. The literature is studied in the context of the history and culture of the time in which it was written. Emphasis is on critical reading, writing and class discussion. (ENGL 2413 - Area I)

ENG 233 Professional and Technical Writing (3)
This course will help students understand the nature, importance, and extent of communication in business and professional communities. It will assist the student in performing effectively a variety of job-related tasks, such as writing memos, descriptions, instructions, reports, proposals, letters, and other media. Students will review grammar, usage, and mechanics for writers. Prerequisite: ENG 102. (ENGL 2113 - Area I)

ENG 235 Advanced Composition (3)
This course is for students who are striving for fluency, maturity, clarity, and significance in their writing. It is an intermediate writing course that builds on and refines writing skills acquired in ENG 102 and ENG 104. It focuses on non-fiction writing for the professions, business, science, technical fields, academe and/or the popular press. Short works of master writers are studied for ideas, style and structure. Prerequisite: ENG 104.

ENG 268 Workshop in English (1-3)
Various topics are presented as announced in the current course schedule. The course may be repeated for credit under different subtitles. Topics may include workshops in creative writing (fiction, poetry, or drama), preparation for publication, or grammar, syntax, and diagramming. Specific topics will be announced in the current course schedule.

ENG 268A Workshop in English: Grant Writing (3)
This course synthesizes textual and visual rhetoric through a semester long portfolio project. Students learn both textual and visual approaches to the portfolio through discussions and application of theory. Each student creates an instructor-approved portfolio, which may include, but is not limited to, professional, scholarly, and artistic goals.

ENG 268C Workshop in English: Portfolio Design (3)
This course synthesizes textual and visual rhetoric through a semester long portfolio project. Students learn both textual and visual approaches to the portfolio through discussions and application of theory. Each student creates an instructor approved portfolio, which may include but is not limited to, professional, scholarly, and artistic goals.

ENG 270 Southwest Literature (3)
This course explores literature by resident authors in the Southwest since 1850. The course explores writings by visitors to the Southwest, as well as social institutions of the region as revealed in novels, plays, and poetry. (ENG 2713 - Area I).

ENG 271 Women in Literature (3)
This course explores unique and surprising portrayals of women in literature beginning from the time of the ancient Greeks, through Medieval, Renaissance, and Victorian periods, ending with Modern Twentieth Century women.

ENG 275 The Motion Picture (3)
This is an introductory film class involving analysis, discussion and writing about films. Emphasis is placed on the relationship between films and the literary works from which they are made. Students explore the literary, cultural and technical influences of film. The course provides students with an opportunity to view and critique selected films with attention to composition and final impact.

ENG 293 Special Topics in English (1-3)
Various topics may be presented as announced in the current course schedule. The course may be repeated for credit under different titles. Topics may include Women Authors, Southwest Literature, Minority Writers and/or specific authors or types of literature.

ENG 299 Capstone Portfolio Course (1)
This capstone course will utilize the College's rubrics to assess the general education competencies (writing, oral communication, information technology, critical thinking, scientific and mathematical reasoning) using student artifacts. A portfolio reflecting best practices will be submitted to a faculty committee for review and evaluation. This course must be completed during the student's last semester prior to graduation.

ESL 099 Beginning English as a Second Language (3)
This course is a beginning-level course designed to develop good listening skills and standard pronunciation of English. This course is intended for students whose first language is not English. Beginning English as a Second Language is a prerequisite to ESL 100 Intermediate English as a Second Language.

ESL 100 Intermediate English as a Second Language (3)
Intermediate English as a Second Language is specifically for students whose predominant language is not English. This course is designed to develop greater English communication and grammar skills, including listening, speaking, reading, and writing. Prerequisite: ESL 099.

Farrier Science

FAS 100 Bit and Spurmaking I (3)
This capstone based course is designed for introductory level spur making including the overlay of silver. This course consists of understanding the theory and practice of metal cutting, shaping and welding in order to build one pair of spurs. Lab and lecture will consist of design and completion of a pair of spurs with basic silver overlay.

FAS 106 Hoof Care for Horse Owners (3)
This course is a basic overview of hoof care designed for horse owners. Topics include hoof management involving nutrition, foot care manners, trimming and shoeing, horseshoe selection, and nail selection.

FAS 107 Artistic Silversmithing (2)
This laboratory-oriented course is designed for students who have a desire to enhance their forging skills. Students are allowed to select and practice the forging or blacksmithing skill of their own choosing.

FAS 108 Artistic Silversmithing - Engraving I (3)
This course is designed for introductory level engraving on precious and non-precious metals. This course consists of understanding the theory and practice of hand and power assisted engraving on spurs and jewelry. Students begin by learning the operation of the basic tools, sharpening the engraving equipment, design and layout of cuts and practicing basic cuts for bright cut style engraving.

FAS 109 Artistic Silversmithing- Bit and Spur Making II (3)
This capstone based course is designed for intermediate level spur making including the overlay and engraving of silver on spurs. This course consists of understanding the theory and practice in the design and layout of the spur and the silver, metal cutting, shaping and welding in order to build one pair of spurs. Lab will consist of design and completion of a pair of spurs.

FAS 111 Horseshoeing Theory I (3)
This course is classroom oriented and designed to present the principles of horseshoeing. A variety of horseshoeing principles are studied (hoof balance, foot biomechanics, and physiological shoeing), as well as gaits of horses. A study of types and uses of horses is also reviewed.

FAS 112 Horseshoeing Theory II (3)
This course is more advanced than FAS 111 and is designed to present more advanced principles of horseshoeing. Shoeing to change gait faults and the principles of functional hoof balance are covered. Specialty shoeing needs of horses are also presented along with the principles of shoeing various types and uses of horses. Prerequisite: FAS 111.

FAS 121 Horseshoeing Laboratory I (3)
This course presents the principles and techniques of shoeing sound horses. From trimming feet to shaping shoes to nailing shoes on, students gain experience by working on horses. This laboratory-oriented class takes a field approach with students trimming and shoeing horses at the College and at local ranches. It is recommended that this course be taken concurrently with FAS 111.

FAS 122 Horseshoeing Laboratory II (3)
This course covers advanced horseshoeing principles and techniques. Shoeing to correct conformational and gait faults is practiced and learned through hands-on experience. Assessment of horses in various gaits and shoeing to change functional hoof balance are addressed. It is recommended that this course be taken concurrently with FAS 112. Prerequisite: FAS 121.

FAS 131 Blacksmithing I (3)
This course presents to students concepts, skills and techniques utilized in blacksmithing and forging. Techniques in forging tools and horseshoes with several toe and heel modifications are addressed in this laboratory-oriented class. Students will gain hands-on experience in this course as they learn the art of blacksmithing.

FAS 132 Blacksmithing II (3)
This course presents advanced principles and techniques used in blacksmithing. Students forge a variety of projects to learn and enhance their blacksmithing skills. The projects involve several advanced techniques that should help students forge tools, shoes and specialty projects. These techniques are used to forge a variety of specialty shoes for horses. Prerequisite: FAS 131.

FAS 171 Specialty Horseshoeing I (3)
This course is designed for students who are certificate seeking and do not wish to enroll in general education courses. This course will provide additional experience in horseshoeing through hands-on learning. This is a laboratory oriented course providing students with additional time to practice their horseshoeing skills. Some forging techniques will be utilized in this course.

FAS 190 Internship in Farrier Science (3)
This course is designed to provide on the job work experience. Students gain this experience by working under the direct supervision of a practicing farrier. Exposure to technical skills, business management, and customer relations are realized in this course. The internship can be done fall or spring semester or during the summer session.

FAS 200 Certification Preparation (1-4)
This course is designed to help students prepare for certification examinations of national associations. The written, forging, and shoeing exams at each level will be covered according to the level the students are preparing for. This course will utilize both lecture and field approaches to preparation. Both full-time farrier students and farriers in business would benefit from this course.

FAS 207 Artistic Silversmithing - Jewelry Making (3)
This course is designed for an introduction to basic jewelry making. The students will learn to make several types of jewelry in the Western style including, rings, bracelets, pendants and earrings. Students will learn to use a jeweler's saw to cut out pieces from precious metals, soldering and joining techniques, basic stone setting, metal forming, polishing and engraving of precious metals. Lab will consist of design and completion of one or more pieces of jewelry.

FAS 208 Artistic Silversmithing - Engraving II (3)
FAS 208 is a continuation of FAS 108. Students receive additional training on basic Western style engraving by building on the skills learned in FAS 108. In addition, students will receive training in advanced scroll layout and completion, basic stone setting and an introduction to jewelry making with an emphasis on engraving. Lab will consist of engraving practice on power assist engraving equipment, design and completion of one engraving project such as a bracelet or pendant.

FAS 223 Farrier Science Therapeutics (3)
This laboratory-oriented course is designed to provide students with the knowledge, skills and techniques of trimming and shoeing horses with common pathological conditions, including laminitis and navicular syndrome. The assessment of lame horses and application of therapeutic shoes will be discussed, demonstrated and practiced. It is recommended that this course be taken concurrently with FAS 233. Prerequisite: FAS 121.

FAS 224 Farrier Science Specialty (4)
This course is designed to be a capstone course for Farrier Science, focusing on specialty and therapeutic work. Both shoeing and forging will be implemented into this laboratory-oriented course. Preparation for the American Farriers Association advanced certification exams will be a part of this course. Prerequisite: FAS 122.

FAS 233 Farrier Craftsmanship Therapeutics (3)
This laboratory-oriented course is designed to instruct students in the craftsmanship of forging therapeutic and pathological horseshoes for common lameness. From measuring the feet to choosing the material for construction in building the shoes, students will practice the processes used to make therapeutic horseshoes. This course should be taken concurrently with FAS 223. Prerequisite: FAS 131.

FAS 253 Lameness Physiology (3)
This course is designed to present a comprehensive approach to biomechanics, pathology, and common lameness of horses. Emphasis is placed on the limb, leg, and foot. Dissections of the leg and foot will be conducted by students. Anyone with an interest in doing veterinary referral work should benefit from this class. Prerequisite: ANSC 151.

FAS 260 Advanced Jewelry Fabrication (3)
This course enables students who are more interested in the jewelry making fields such as the making of rings, bracelets, pendants, ear rings, and other types of jewelry to acquire the skills necessary to produce a marketable product. Students would learn how to set stones in their work and more refined soldering and finishing techniques.

FAS 261 Engraving Techniques (3)
This course covers more advanced engraving methods than previous courses. Students who complete this course will have acquired skills in single point, bulino, and flare cut engraving. Students also learn the construction of more advanced techniques of scroll design and the construction of compound acanthus leaf.

FAS 289 Independent Study in Farrier Science (2)
This course is designed to give students experience in developing, conducting and writing a small research project. Special topics or problems related to horseshoeing will be considered for projects. Students should gain detailed insight into a topic that is of particular interest to them. The requirements for this course are completed on an arranged schedule.

FAS 290 Internship in Applied Farrier Science (3)
This course is designed to provide on-the-job work experience and allow the student to apply skills and knowledge. Students gain this experience by working under the direct supervision of a practicing farrier. Application of technical skills, business management, and customer relations are realized in this course. The applied internship can be done fall or spring semester or during the summer session.

FAS 293 Special Topics in Farrier Science (3)
This is an advanced special topics course for students who desire to gain additional laboratory time. This is a laboratory-oriented course allowing students extra time to practice techniques and build their skills in horseshoeing. Horses will be worked on as available and some forging techniques will be utilized.

FAS 294 Special Topics- Fabrication (3)
This course allows students to gain more refined techniques in metal work and finish. Students in this class learn how to use micron paper in acquiring a better finish. It would also involve more advanced techniques in the construction and finish of spur hangers, rowels, cheek pieces, shanks, and chap gaurds. This class aids students in fabrication of bits and spurs that would be directed more towards the collector and higher priced clientele rather than the working cowboy.

Foreign Language

FR 101 Introduction to French Culture and Language I (3)
This first French language course is designed to immerse students in French culture via a romantic comedy filmed in France. This course also contains photos, cartoons, graphics, film clips, interviews, and excerpts from television and advertising drawn from the French-speaking world. (FREN 1113 - Area V)

FR 102 Introduction to French Culture and Language II (3)
This second French language course is a continuation of Introduction to French Culture and Language I and is designed to immerse students in French culture via a romantic comedy filmed in France. This course also contains photos, cartoons, graphics, film clips, interviews, and excerpts from television and advertising drawn from the French-speaking world.

SPAN 100 Introduction to Spanish (3)
This course is designed for individuals with no experience in Spanish. It introduces the student to the sound system, pronunciation, and basic vocabulary necessary for communication in Spanish. This course is recommended for students who have had no previous exposure to Spanish or to the study of another foreign language.

SPAN 101 Beginning Spanish I (3)
Beginning Spanish I is an introductory course in Spanish as a second language for the student with little or no previous exposure to written or spoken Spanish, including non-native speakers as well as native speakers with marginal comprehension. Development of conversational skills is a major goal, although reading and writing are also stressed. (SPAN 1113 - AreaV)

SPAN 102 Beginning Spanish II (3)
Beginning Spanish II is a continuation of Spanish I involving further study of the structure of the language as well as extensive oral and written practice. Improvement of conversational skills is a major goal, although reading and writing are also stressed. Prerequisite: SPAN 101. (SPAN 1123 - AreaV)

SPAN 201 Intermediate Spanish I (3)
Intermediate Spanish I presents a varied selection of short stories by contemporary authors from different parts of the Spanish-speaking world. The course reviews grammar and syntax and focuses on vocabulary building by means of intensive and extensive readings and writings. Prerequisite: SPAN 102.

SPAN 202 Intermediate Spanish II (3)
Intermediate Spanish II is a continuation of Spanish 201 and consists of a varied selection of short stories by contemporary authors from different parts of the Spanish-speaking world not studied in Spanish 201. The focus of the course is primarily on language acquisition, reading comprehension, and communicative competence both orally and in written form. Prerequisite: SPAN 102.

SPAN 293 Special Topics in Spanish (1-3)
This course varies in topics as selected by the instructor. The course may be repeated for credit as long as the topic differs. Topics will be as announced in the current course schedule. Prerequisites: SPAN 101 and SPAN 102.

Geography

GEOG 101 Introduction to Human Geography (3)
This course presents an introduction to cultural aspects of the distribution of the human race. Students will learn about the similarities and differences between cultures throughout the world and how these relate to the natural world. Topics that will be discussed include population patterns, language, religion, ethnicity, agriculture, industry, urban patterns and resource problems. (GEOG 1213 - AreaV)

GEOG 110 World Regional Geography (3)
This course introduces students to the geographical foundations of development and underdevelopment in the modern world. It also stresses the contribution that the study of geography can make to environmentally and culturally sustainable development. Students will be exposed to fundamentals of geography as well as a survey of the major regions of the world.

GEOG 293 Special Topics (4)
This course number will be used for geography topics that are not covered in the regular curriculum. Courses will be offered irregularly, based on need and interest. May include a four-day field trip to areas of geographic significance.

Geology

GEOL 105 Introduction to Museum Science (4)
This course presents an overview of museum organization and function with a particular emphasis on natural history museums. Major themes will be the basic functions, organization and management of a museum, the main divisions of a museum and their functions, the collection, conservation and curation of natural history specimens and the theory and construction of exhibits.

GEOL 111 Introduction to Field Paleontology (4)
This course introduces the basic field and laboratory techniques utilized in the study of fossils (paleontology). Students gain extensive practical experience of collecting and processing fossils with an emphasis on vertebrate fossils. Laboratory and curatorial work will be conducted at the Mesalands Community College's Dinosaur Museum and Natural Science Laboratory.

GEOL 118 Paleontology Field Expedition (4)
This class is conducted in cooperation with the Cottonwood Gulch Foundation, Albuquerque, and designed for students between 15 and 19 in age. Students will live at a scientific base camp in the wilderness while excavating fossils and learning about ancient environments and their inhabitants. The course introduces the basic field techniques utilized in study of fossils (paleontology) and rocks (geology). Students will gain extensive practical experience of collecting and processing fossils, with an emphasis on vertebrate fossils. They will also engage in a variety of independent field and research projects, such as prospecting techniques for fossils, studying preservation of fossils, studying rocks and interpreting their formation, or constructing and interpreting maps.

GEOL 120 Paleontology Field Discovery (4)
This course provides a week-long experience of excavating fossils and processing them in a museum. Students will prospect for and learn to excavate dinosaur-age vertebrates in the Quay County area. Basic laboratory methods and preparing field specimens will be studied in the laboratory at Mesalands Community College's Dinosaur Museum. Students will learn about the local rocks and age determination, and they will also study the major groups of fossil vertebrates found in the area, including dinosaurs and dinosaur tracks.

GEOL 122 Paleontology Field Exploration (4)
This course presents a seven-day overview of the basic field, laboratory and museum methods used in the study of fossils. Students will follow the whole process from digging a fossil from the ground, through cleaning and stabilizing to cataloging it in the Mesalands Community College's Dinosaur Museum. Included is a trip to a site rich in dinosaur footprints and hands-on experience in molding and casting fossils.

GEOL 124 Triassic Vertebrate Practicum (2)
This course provides an introduction to excavating fossils and processing them in a laboratory setting. Students will prospect for and learn to excavate vertebrate fossils from the Upper Triassic in eastern New Mexico. Basic laboratory and preparation methods for field specimens will be practiced in the Natural Science Laboratories at Mesalands Community College's Dinosaur Museum. Students will explore aspects of the anatomy, systematics, evolutionary relationships, and paleobiology of the principal groups of Late Triassic vertebrates.

GEOL 125 Dinosaurs (4)
This course is designed to introduce the student to the evolution and ecology of dinosaurs. Students will gain knowledge of the main features of the evolution of dinosaurs, and their diversity and ecology. Other topics covered will be the origin

of birds, the possibility that dinosaurs were warm-blooded, and dinosaurs in the media.

GEOL 141 Introduction to Environmental Science (4)
Introduction to Environmental Science presents an overview of Earth's environmental problems as a result of human interactions with the natural world and discusses possible solutions. The topics explored in this class include environmental interrelationships, philosophical and economic issues, principles of ecology, sources and use of energy, impact of human activities on natural ecosystems, and the major types of pollution. The class is offered alternatively online through the Internet or as a regular classroom and does not require any previous course work or knowledge in college-level science.

GEOL 151 Physical Geology (4)
Physical Geology is the standard first semester class in all geology programs. The course presents an overview of the internal and external physical processes of the Earth including: basic internal structure and processes of the Earth; external processes that shape the surface of the Earth; identification and origin of rocks and minerals. Laboratory exercises and field trips emphasize the rich geological heritage of the area. (GEOL 1114 - Area III)

GEOL 152 Historical Geology (4)
Historical Geology presents an overview of the physical and biological evolution of the Earth. The course includes information on major geological processes and how they have interacted through time with the evolution of life. This course basically presents an outline of the history of life on Earth focusing on North America. Prerequisites: GEOL 151 Physical Geology or instructor consent. (GEOL 1214 - Area III)

GEOL 175 Natural Disasters (4)
This course provides an overview of natural earth processes that are hazardous to mankind. Topics covered will include a variety of hazardous processes including geological processes (earthquakes, volcanoes, floods, landslides), climatic events and other miscellaneous hazards (extraterrestrial impacts, population explosion, fire).

GEOL 190 Internship in Geoscience (1-10)
This course provides the freshman student the opportunity to gain practical experience while working for a geologically oriented operation. Examples of possible locations for internships could include natural history museums, federal or state agencies or private companies. Students will identify learning objectives at the beginning of the internships that will be evaluated at the end of the semester. This class may be repeated for credit. Prerequisite: GEOL 151 or consent of the instructor.

GEOL 210 History of Life (4)
This course presents an overview of the evolution and diversity of life on Earth. Students will study the main features of the evolution of the principal organisms on Earth (including plants, animals and microorganisms) and the evolution of ecosystems. Field trips may be included. Prerequisite: BIOL 113 or GEOL 151 or consent of the instructor.

GEOL 220 Geology of the Southwest (4)
This course familiarizes the student with an overview of the geology of the southwestern United States. Students learn about the geological processes that led to the development of the American Southwest and also about the fossil record of this region. Prerequisite: GEOL 151, GEOL 152 or consent of the instructor.

GEOL 230 Environmental Geology (4)
Environmental Geology presents an overview of the ecosystem of the Earth, with an emphasis on physical processes, and human impact. Topics will include the geological aspects of the Earth ecosystem, the geological resources of the Earth and the problems of waste disposal and pollution. Prerequisite: GEOL 151 or consent of instructor.

GEOL 270 Invertebrate Paleontology (4)
This course covers the diversity and evolution of invertebrate animals. Topics will include the origin, classification and diversity of invertebrates, evolution of the major groups and aspects of the paleoecology and taphonomy of invertebrates. Laboratory and field trips will emphasize local fossils. Prerequisite: GEOL 152.

GEOL 280 Vertebrate Paleontology (4)
Vertebrate Paleontology presents an overview of the diversity and evolution of vertebrate animals. Students will cover the principal kinds of vertebrate fossils, the main features of the evolution of vertebrates and the principles of the palenotology and taphonomy of vertebrate fossils. Prerequisite: GEOL 152.

GEOL 285 Tracking Dinosaurs (4)
Eastern New Mexico is rich in the fossil footprints from before the age of dinosaurs and after their demise. This course provides an overview of the study of ancient footprints and includes discussion of how to interpret animal tracks and obtain information about ancient ecologies from footprints. Prerequisite: GEOL 152.

GEOL 289 Independent Study in Geoscience (1-4)
This course provides the student an opportunity to pursue an independent study or research project con-

cerning a topic of interest. The topic will be chosen by the student in consultation with a faculty member. Subjects that could be covered by an independent study can either be extensions of topics covered by other classes or include subjects that are not covered by the current curriculum. Prerequisite: GEOL 151 and GEOL 152, or consent of the instructor.

GEOL 290 Internship in Applied Geoscience (1-10)
This course provides the sophomore student the opportunity to gain practical experience while working for a geologically-oriented operation. Examples of possible locations for internships could include natural history museums, federal or state agencies or private companies. Students will identify learning objectives at the beginning of the internship that will be evaluated at the end of the semester. This class may be repeated for credit. Prerequisite: GEOL 151, GEOL 152, and one GEOL 200 level.

GEOL 291 Directed Study in Geoscience (1-4)
This course provides the student an opportunity to engage in a study of a subject not covered by the curriculum of the College or not offered during that semester. The subject will be decided by a student in consultation with a faculty member. Subjects that could be covered by a directed study could include any branch of the geosciences. Prerequisite: GEOL 151 and GEOL 152.

GEOL 293 Special Topics in Geology (3-4)
This course number will be used for geology topics that are not covered in the regular curriculum. Courses will be offered irregularly, based on need and interest, and may cover any area of geology including paleontology and museum science.

Health and Physical Education

HPE 100 Fitness for Life (.5)
This self-paced course is designed to allow students the opportunity to stay in shape and live a healthy lifestyle by exercising on a regular basis. The students have an opportunity to use various exercise machines and equipment.

HPE 105 Fundamentals of Weight Training (1)
Introduces the activity of weight training and focuses on designing and safely implementing a personalized program utilizing free weights and machine exercises to develop a base of general muscular conditioning.

HPE 107 Aerobics: Low Impact (1)
This course provides a practical application to low impact exercising. The emphasis is on injury prevention, health benefits, and weight control. Students will be introduced to rating fitness level and learn to follow routines that focus on arm work to more complicated steps requiring them to move across the floor. Students will be introduced to low-impact movements for developing natural grace and agility.

HPE 108 Beginning Step Aerobics (1)
This course provides basic instruction in cardiovascular exercise utilizing the activity of step aerobics. This course will be taught at a beginning level for individuals who have never participated in a step aerobics program.

HPE 114 Fundamentals of Rodeo (3)
This is an instructional course designed to familiarize students with the rules and regulations associated with competitive rodeo. The exercise and fitness principles and techniques involved in rodeo, as well as injury prevention, are addressed. Participation in competitive rodeo is not required for this course.

HPE 115 Fly-fishing (1)
This course is for the fly-fishing novice, as well as all fly fishermen wanting to add to their fishing knowledge and techniques. Included in this course are such diversified subjects as fly-tying, nymphs, stream insects, proper wading, tricks for suspicious trout and discussions of fly rods and fly lines.

HPE 117 Walking for Fitness (1)
Walking for Fitness is a course for those who desire an easier, safer, less strenuous and infinitely more enjoyable way to fitness and inner well-being. Students will be introduced to the benefits of walking. They will understand the principle of determining target heart rate and will demonstrate the procedure. Students will be able to calculate average caloric expenditure for various activities and will be introduced to and participate in a basic walking program.

HPE 118 Fundamentals of Fitness Yoga (1)
Introduces various techniques of Fitness-Style Yoga.

HPE 119 Cardio Kickboxing (1)
This course provides basic instruction in cardiovascular exercise utilizing non-contact kick boxing movements (punches, kicks, basic footwork, combinations, etc.). This course will be taught at a beginning level for individuals who have never participated in a cardio kickboxing program.

HPE 123 Personal Training Assessment (1)
Under the guidance of a personal trainer, the student will assess their muscular strength, muscular endurance, cardiorespiratory fitness, flexibility and body composition. Based on the assessments, the student and the trainer will design and implement a systematic, goal-oriented exercise program. Fol-

low-up sessions with the trainer will be available. This is an ideal class for those who want to "quick start" into an independent exercise program.

HPE 124 Intermediate Rodeo Techniques (3)
This intermediate level instructional rodeo course addresses techniques used in various rodeo events. Demonstration of the various rodeo events will be given to the students and they will be given the opportunity to use their acquired skills at club practices. Both men's and women's events will be covered.

HPE 125 Intermediate Weight Training (1)
Continuation of HPE 105. Course focuses on the design and safe implementation of an intermediate, periodized resistance/weight training program to improve muscular endurance, hypertrophy, muscular strength, power and peaking.

HPE 126 Weight Training for Women (1)
Introduces in a non-intimidating environment weight training designed for women and focuses on the use of free weights and machines to develop muscle tone, strength and improve bone density.

HPE 127 Introduction to Health and Wellness (1)
This introductory health and wellness course introduces the student to the concepts of physical, mental, and social health. This course addresses topics including fitness, exercise, nutrition, diseases, and intellectual well-being. This course is required for all Associate of Arts majors.

HPE 128 Individual Health and Conditioning (3)
This self-paced course is designed to allow students the opportunity to stay in shape and live a healthy lifestyle by exercising on a regular basis. The students have an opportunity to use various exercise machines and equipment.

HPE 129 Circuit Training (1)
Offers students a total body workout within a single exercise session. Machine weight training exercises are performed consecutively to tone and strengthen major muscle groups in a fun-filled, musical environment.

HPE 132 Fundamentals of Pilates-Style Mat Training (1)
This course is designed to introduce students to Pilates-style mat work. The progressive course is designed to train core strength and stability as well as improve flexibility and facilitate relaxation.

HPE 133 Fitness for Older Adults (1)
Focuses on individualized, goal-oriented exercise programs for individuals 50 years of age and older based on assessment of muscular and cardiovascular fitness. Utilizes weight machines, free weights and stretching activities to improve strength, endurance, range of motion, bone mass, balance, overall well-being and the ability to perform activities of daily living.

HPE 142 Zumba® I (.5)
This course is designed to jumpstart students into Zumba®. Zumba classes feature exotic rhythms set to high-energy Latin and international beats. The Zumba® Program integrates some of the basic principles of aerobic, interval, and resistance training to maximize caloric output, cardiovascular benefits and total body toning. The cardio-based dance movements are easy-to-follow steps that include body sculpting, which targets areas such as gluteus, legs, arms, core, abdominals and the most important muscle in the body – the heart.

HPE 143 Zumba® II (1)
This course is designed to jumpstart students into Zumba®. Zumba classes feature exotic rhythms set to high-energy Latin and international beats. The Zumba® Program integrates some of the basic principles of aerobic, interval, and resistance training to maximize caloric output, cardiovascular benefits and total body toning. The cardio-based dance movements are easy-to-follow steps that include body sculpting, which targets areas such as gluteus, legs, arms, core, abdominals and the most important muscle in the body – the heart.

HPE 147 Zumba Toning® (1)
This course is designed to blend body-sculpting techniques and specific Zumba® moves to build a single calorie-burning, strength-training class. Students will learn how to use weighted, maraca-like Zumba™ Toning Sticks during performance of a variety of international dance movements to enhance rhythm, build strength, posture, and tone all the target zones during a safe, controlled routine.

HPE 243 Zumba® III (2)
This course is designed to introduce students to Zumba®. The Zumba® Program integrates some of the basic principles of aerobic, interval, and resistance training to maximize caloric output, cardiovascular benefits and total body toning. The cardio-based dance movements are easy-to-follow steps that include body sculpting, which targets areas such as gluteus, legs, arms, core, abdominals and the most important muscle in the body – the heart.

HPE 146 Boxing Conditioning (1)
This challenging, non-contact boxing course will cover basic boxing skills (stance and basic footwork, punches, combinations, defensive moves, etc.) as well as participation in general conditioning activities commonly performed by boxers.

HPE 150 Fundamentals of Rough Stock Riding (2)
This course provides the student with an overview of rough stock riding fundamentals and will provide a basis for subsequent more in-depth rough stock courses. This class will study the principles and technique used in the three rough stock riding events; bareback riding, saddle bronc riding and bull riding. Students will learn safety procedures, identify and use proper safety equipment and fundamental riding techniques in this course.

HPE 151 Intermediate Rough Stock Riding (2)
This intermediate level instructional rodeo course addresses techniques used in various rough stock rodeo events. Demonstration of the various rough stock rodeo events will be given to the students and they will be given the opportunity to use their acquired skills at club practices.

HPE 160 Fundamentals of Women's Rodeo Events (2)
This course provides the student with an overview of women's timed events fundamentals and will provide a basis for subsequent more in-depth women's timed event courses. This class will study the principles and technique used in the three women's timed events; barrel racing, goat tying and breakaway roping. Students will learn safety procedures, identify and use proper safety equipment and fundamental techniques of women's timed events in this course.

HPE 161 Intermediate Women's Timed Events (2)
This intermediate level instructional rodeo course addresses techniques used in various women's rodeo events. Demonstration of the various women's rodeo events will be given to the students and they will be given the opportunity to use their acquired skills at practice.

HPE 170 Fundamentals of Men's Timed Events (2)
This course provides the student with an overview of men's timed events fundamentals and will provide a basis for subsequent more in-depth men's timed event courses. This class will study the principles and technique used in the three men's timed events; tie-down roping, team roping and steer wrestling. Students will learn safety procedures, to identify and use proper safety equipment, and fundamental techniques of men's timed events in this course.

HPE 171 Intermediate Men's Timed Events (2)
This intermediate level instructional rodeo course addresses techniques used in various men's rodeo timed events. Demonstration of the various men's rodeo timed events will be given to the students and they will be given the opportunity to use their acquired skills at practice.

HPE 180 Quick Start Fitness Progam (1)
Under the guidance of a personal fitness trainer, the student will design and implement a "quick start fitness program" to address identified goals based on health and activity history. This is an ideal class for those who want to "quick start" into an independent exercise program.

HPE 201 Health and Wellness (3)
This course is a "user-friendly" guide to healthful living that encourages students to take a proactive stance toward maintaining health, with a focus on the lifestyle components that encourage wellness. It encompasses all areas of health: physical, emotional, social, intellectual, and spiritual.

HPE 208 Strategies for Conditioning (1)
Off-season conditioning program focuses on improving and maintaining speed, agility and quickness (SAQ) in an attempt to improve total body power and athletic explosiveness.

HPE 214 Advanced Rodeo Techniques (3)
This is an instructional course designed to familiarize students with the rules and regulations associated with competitive rodeo. The exercise and fitness principles and techniques involved in rodeo, as well as injury prevention, are addressed. Participation in competitive rodeo is not required for this course.

HPE 222 Body Sculpting (1)
This muscular conditioning class utilizes hand-held weights and exercise bands to tone, define, sculpt and strengthen major muscle groups in an aerobic setting.

HPE 223 Fit Ball (1)
Uses fit balls, exercise bands, medicine balls and hand weights to improve flexibility, coordination and extremity and core stability.

HPE 224 Applied Rodeo Techniques (3)
This is an instructional course designed to familiarize students with the rules and regulations associated with

competitive rodeo. The exercise and fitness principles and techniques involved in rodeo, as well as injury prevention, are addressed. Participation in competitive rodeo is not required for this course.

HPE 235 Advanced Weight Training (1)
Continuation of HPE 125. Course focuses on the design and safe implementation of advanced resistance/weight training programs to improve muscular endurance, hypertrophy, muscular strength, power and peaking. Prerequisite: HPE 125 or consent of instructor.

HPE 243 Zumba® III (2)
This course is designed to give students a more advanced Zumba® experience. Zumba classes feature exotic rhythms set to high-energy Latin and international beats.The Zumba® Rhythms include: Merengue, Salsa, Raggaeton, Calypso, Flamenco, Belly Dancing, Tango, Samba, and much more. Program integrates some of the basic principles of aerobic, interval, and resistance training to maximize caloric output, cardiovascular benefits and total body toning. The cardio-based dance movements are easy-to-follow steps that include body sculpting, which targets areas such as gluteus, legs, arms, core, abdominals and the most important muscle in the body – the heart.

HPE 293 Special Topics in Health and Physical Education (.5-3)
This course number will be used for health and physical education topics that are not typically scheduled. Course will be offered irregularly, based on need and interest, and may cover any area of health and physical education including both theory and activity courses.

Health Sciences

HS 101 Introduction to Health Sciences (3)
Introduction to Health Sciences introduces the student to the duties and responsibility of the varied healthcare disciplines. The topics in this course provide basic knowledge that is common to a variety of healthcare positions. This course helps build a sound foundation of knowledge and provides many opportunities for crosstraining. Topics discussed in this course include legal and ethical issues, healthcare communication techniques, understanding patients' needs, infection control, and career planning.

HS 211 Medical Career Exploration (3)
Medical Career Exploration examines the goals of health care and explores the requirements of medical educational programs. This course provides research into educational requirements, desired personal characteristics, job satisfaction, career advancement, employment opportunities, and work hours. Topics discussed are socio-economics, current and future health care trends, ethical issues, and pharmaceutical use in medicine. Hands-on experience at a medical facility is included as part of the course. Prerequisite: ENG 102 and HS 101.

HS 212 Dental Career Exploration (3)
Dental Career Exploration examines the goals of dentistry and explores the requirements of dental educational programs. This course provides research into career descriptions, career role, educational ladder, safety issues, and career opportunities for dentists. Hands-on experience at a dental clinic is included as part of the course. Prerequisite: ENG 102 and HS 101.

HS 213 Veterinary Career Exploration (3)
Veterinary Career Exploration examines the goals of veterinary medicine and explores the requirements of veterinarian educational programs. This course provides research into career descriptions, career role, educational ladder, safety issues, and career opportunities for veterinarians. Hands-on experience at a veterinary clinic is included as part of the course. Prerequisite: ENG 102 and HS 101.

History

HIST 101 Survey of American History to 1877 (3)
This course traces the development of American principles and ideals from the Colonial era through the early national period. Issues in sectional divergence and the Civil War will be discussed. The course traces the growth of the United States under the Constitution with emphasis upon the European political, economic, social and religious background; the winning of independence; and the objectives and accomplishments of the founders of the Republic. (HIST 1113 - Area V)

HIST 102 Survey of American History Since 1877 (3)
This course is a continuation of HIST 101, with emphasis on the growth of urban American labor and agrarian movements, Progressive Era, Imperialism, the Twenties, the New Deal, and historical events through the present. This course also deals with the changes which brought the urban/industrial society of today into being, World Wars I and II, and afterwards. (HIST 1123 - Area V)

HIST 121 Survey of Western Civilization I (3)
This course is a general study of western civilization from ancient times to 1500 A.D., beginning with the earliest civilizations in Mesopotamia, and Egypt. Oth-

er areas include the political, intellectual, and cultural development of Crete, Greece and Rome. The rise of Islam and the Muslim world will be another theme. Life and society in the medieval period will include discussions of kings and popes. The course will conclude with the Renaissance in Italy and Europe. (HIST 1053 - Area V)

HIST 122 Survey of Western Civilization II (3)
This course introduces the Protestant Reformation and birth of the modern world. It also deals with the rise of Absolutism, reactions to the rise in war and revolution, Western technology, social and intellectual history; and political trends to the present. The increasing interaction and interdependence of world cultures will be a major theme. (HIST 1063 - Area V)

HIST 160 The U.S. and Vietnam 1940-1975 (3)
The course is a survey of the intersection of American and Asian histories in Vietnam. It not only explores the Vietnamese contest of the war, but also identifies the reasons for United States involvement. The class analyzes the relationship of the war to the foreign policies of the Kennedy, Johnson, and Nixon administrations. Consideration is given to this foreign policy as a representative example of post-World War II United States globalism. In addition, the course examines the relationship of the war to domestic policy and the antiwar movement. It also considers the causes of defeat and the plight of the war's veterans. Finally, it assesses the lessons that were learned.

HIST 203 New Mexico History (3)
This course is a study of New Mexico's Indian, Spanish, Mexican, and American epochs. Topics included are internal development and problems of the state, general cultural, economic, political development, and New Mexico's place in the United States. (HIST 2113 - Area V)

Library Science

LBS 200 Library Science Fundamentals (3)
This course is recommended for students with no previous instruction in Library Science. Instruction includes library definitions, mission, goals, objectives, and activities statements to support the program of the College. Also, this course will include policies, guidelines, descriptions, evaluations, procedures, and reports fundamental for library use. Students are required to turn in a library manual and library floor plan.

LBS 250 Children's Literature (3)
This intensive reading course presents old, new and outstanding titles in literature for children in grades kindergarten through six. Topics include authors and illustrators, principles of selection, evaluation, and integration of literature, fiction and nonfiction in a variety of formats to enrich classroom activities and recreational and lifelong reading. Knowledge of outstanding authors and illustrators of media for children is emphasized.

Mathematics

MATH 099 General Math (4)
General Math is designed to prepare the student with the basic math skills needed for a certificate, entry to higher math, or personal improvement. The course covers addition, subtraction, multiplication, division, exponential notation, order of operations, prime numbers and factoring as related to whole numbers, fractions, decimals, ratio and proportion, percent, business and consumer applications, and statistics. The course is designed to help the student develop numerical skill, enhance mathematical vocabulary, develop estimation and problem solving skills, apply mathematical concepts, and enhance calculator skills. A TI-30Xa SE Calculator is required for this course. Prerequisite: Appropriate score on the Success/Assessment Placement Test.

MATH 100 Pre-Algebra (3)
Pre-Algebra is designed to prepare the student for algebra, business math or accounting. Topics include: United States Customary Units of Measurement; Rational Numbers, including addition, subtraction, multiplication, and division of integers, scientific notation and the order of operations agreement; Introduction to Algebra including variable expressions, equations, translating verbal expressions into mathematical expressions, translating sentences into equations and solving, and geometry including angles, lines, and geometric figures, perimeter, area, volume, the Pythagorean Theorem, and similar and congruent triangles. A scientific calculator is required for this course. Prerequisite: MATH 099, or appropriate score on the Success/Assessment Placement Test.

MATH 101 Basic Algebra (4)
This course is an introduction to Basic Algebra. Topics include a brief overview of fractions, decimals, and percents. Operations in algebra are discussed in detail for first-order equations and inequalities, formulas and word problems. Additional topics include linear equations and graphing, properties of exponents, polynomials and factoring. Prerequisite: A grade of C or better in MATH 100 or appropriate score on the Success/Assessment Placement Test.

MATH 107 Intermediate Algebra (3)
This course is a continuation of Basic Algebra. Topics include an introduction to function notation and operations with functions, and an introduction to rational, radical and quadratic expressions and equations. Students will inves-

tigate the symbolic, numeric, and graphical representations of these functions and their applications. Prerequisite: A grade of C or better in MATH 101 or appropriate score on the Success Assessment/Placement Test.

MATH 110 College Algebra (4)
This course is a study of the properties of functions and transformation of functions with an analysis of their graphs. The types of functions studied include: linear functions and systems of linear equations, quadratic and polynomial functions, rational and radical functions, and exponential and logarithmic functions. These functions will be used to model data in a variety of applications. Prerequisite: A grade of C or better in MATH 107 or appropriate score on the Success Assessment/Placement Test. (MATH 1113 - Area II)

MATH 112 Trigonometry (3)
This course covers all aspects of analytic trigonometry and analytic geometry in detail. Among these topics are the definitions and graphs of trigonometric and inverse trigonometric functions, harmonic motion, verifying trigonometric identities, law of sines and cosines, multiple trigonometric angle formulas, DeMoivre's theorem and n^{th} roots of complex numbers, vector (addition and multiplication, and equations of the conic sections). Prerequisite: MATH 110 or appropriate score on the Success Assessment/Placement Test. (MATH 1213 - Area II)

MATH 141 Elements of Calculus I (3)
Topics of this first course in calculus will include limits of functions and continuity, and intuitive concepts and basic properties, derivative as rate of change, basic differentiation techniques; application of differential calculus to graphing and minima-maxima problems; exponential and logarithmic functions with applications. Prerequisites: MATH 110 and MATH 112 with grade C or better or an appropriate score on the Success Assessment/Placement Test. (MATH 1613 - Area II)

MATH 142 Elements of Calculus II (3)
Topics in this second course of calculus include functions of several variables, techniques of integration, an introduction to basic differential equations, and an overview of infinite series, with applications. Prerequisite: MATH 141 or appropriate score on the Success/Assessment Placement Test.

STAT 213 Statistical Methods (4)
This is a beginning course in basic statistical methodology, measures of central tendency, variability and association, probability and sampling distributions, estimation of parameters and testing hypothesis, and correlation with applications in the management, social and biological sciences. Prerequisite: MATH 107 or appropriate score on the Success/Assessment Placement Test. (MATH 2414 - Area II)

Music

MUS 101 Music Appreciation (3)
This course is designed to create an understanding of the essential nature of music and its broad international cultural application. It explores the commonalities and the diverse uses of the basic musical elements: melody, rhythm, texture, timber, and harmony. Students will discover how music is used to inspire religious feeling, prepare individuals for war, help people work, and enhance games and play. A complete exposure of musical talents is experienced. (Music 1113 - Area V)

Philosophy

PHIL 201 Introduction to Philosophy (3)
This course is an introduction to the elementary problems and history of philosophy, as well as the nature of philosophical inquiry. Topics include classical and contemporary solutions to major philosophical problems, ethics, philosophy of religion and philosophy of science, as well as the basic principles of logic and critical thinking. (PHIL 1113 - Area V)

PHIL 202 Ethics (3)
This course examines contemporary ethical conflicts through highly charged case studies. Students are invited to struggle with real ethical dilemmas as they are given a grounding in the language, concepts, and traditions of ethics. This course also examines the morality and principles of individual and social behavior; contemporary ethical issues are explored. (PHIL 2113 - Area V)

Physics

PHYS 115 Introduction to Physics (4)
This course provides an introduction to the basic ideas and methods of physical science. Topics will include classical mechanics, electricity and magnetism, astronomy, earth science, and chemistry in a nutshell. The broad scope is designed to give the student a taste of all the physical sciences. Includes laboratory. Prerequisite: MATH 101. (Physics 1114 - Area III)

PHYS 120 Introduction to Astronomy (4)
This course explores the structure and evolution of the universe. Students will study the Sun and planets in our solar system, the birth and death of stars and the evolu-

tion of galaxies. There will also be examination of some of the most fundamental questions of existence such as how did the universe start and how will it end? and is there life elsewhere in the cosmos? Laboratory exercises are included. Prerequisite: MATH 101. (ASTR 1114 - Area III)

PHYS 201 College Physics I (4)
This algebra-based course, the first of a sequence of two, is a treatise of classical Newtonian physics. Topics include kinematics, static and rotational equilibria, dynamics, the harmonic oscillator, work and energy, and the three laws of conservation. Emphasis is placed on the development of problem solving ability. Laboratory included. Prerequisite: MATH 110. (PHYS 1214 - Area III)

PHYS 202 College Physics II (4)
This algebra-based continuation of PHYS 201 includes electromagnetism, DC and AC circuits, electric fields and forces, magnetic forces and fields, inductance and capacitance, induced emf, optics, relativistic effects, and introductory quantum physics. Laboratory included. Prerequisite: PHYS 201. (PHYS 1224 - Area III)

Political Science

PSCI 102 American Politics (3)
This course emphasizes the structure and function of government as described in the Constitution of the United States. There will be discussions of major political ideas, theories, and practices in the meaning and motivation of government. The rise of federalism and of civil rights and liberties will be placed within the context of political history. There will be discussion of the major political parties that have influenced the political and legislative environment. The executive and judicial branches of government will also be emphasized. (POLS 1123 - Area IV).

PSCI 202 State and Local Government (3)
This course is designed as a survey of the politics, administration, policies, structures, services, and problems of governments, both state and local, in the United States. The objective not only incorporates the history of state government into the course but also examines contemporary issues. (POLS 1213 - Area IV)

Pre-Collegiate Studies

ENG 099 Basic Grammar and Usage (4)
This is the beginning level of the pre-collegiate English courses offered at Mesalands Community College. The course offers intensive instruction in capitalization and punctuation; grammar and usage including nouns, verbs, pronouns, adjectives, and adverbs; sentence recognition, structure, clarity, and combining; and paragraph development. Prerequisite: Appropriate score on the Success Assessment/Placement Test.

ENG 100 Basic Writing Skills (3)
This course places emphasis on teaching students to write well-developed, grammatically correct essays. Students learn how to develop topic sentences, write paragraphs and essays that are purposeful, coherently developed and free of grammatical and usage errors. This course will prepare students for ENG 102. Prerequisite: ENG 099 or appropriate score on the Success Assessment/Placement Test.

MATH 099 General Math (4)
General Math is designed to prepare the student with the basic math skills needed for a certificate, entry to higher math, or personal improvement. The course covers relatively simple arithmetic problems of fractions, decimals, percents, ratios and proportions, and their practical applications. The course is designed to help the student develop numerical skill, enhance mathematical vocabulary, develop estimation and problem-solving skills, apply mathematical concepts and enhance calculator skills. A calculator is required for this course. Prerequisite: Appropriate score on the Success Assessment/Placement Test.

MATH 100 Pre-Algebra (3)
Pre-Algebra is designed to prepare the student for algebra, business math or accounting. Topics include a review of operations on fractions and decimals; ratios, proportions and percents; signed number operations; polynomials; American and metric measurements; geometry; elements of linear algebra and word problems; and use of a hand-held calculator. A calculator is required for this course. Prerequisite: MATH 099 or appropriate score on the Success Assessment/Placement Test.

RED 099 Fundamentals of Reading and Vocabulary Development (4)
This pre-collegiate course is designed to develop vocabulary skills including: compound words, root words, prefixes and suffixes, synonyms, antonyms, homonyms and idioms. This course also covers fundamental reading skills including details, events and sequences, main idea, causes and effects, conclusions, character analysis, author bias and viewpoint, techniques of persuasion, and techniques of writing, such as similes, metaphors, hyperbole, and personification. Prerequisite: Appropriate score on the Success Assessment/Placement Test.

RED 100 Basic Reading Skills (3)
This pre-collegiate course is designed to improve reading skills by emphasizing word attack, comprehension, vocabulary, reading rate, reference skills, following directions and listening skills. The course provides the student with reading practice and critical thinking skills leading to sufficient skills to meet college reading demands. (The course will not apply toward reading certification endorsement.) Prerequisite: ENG 099 or appropriate score on the Success Assessment/Placement Test.

Psychology

PSY 101 Introductory Psychology (3)
Students are introduced to psychology as a science that includes the study of behavior and mental processes in humans and other animals. Topics surveyed include history, research methods, brain and behavior, psycho-pharmacology, learning, memory, personality, psychological disorders, therapy, and social psychology. (PSYC 1113 - Area IV)

PSY 102 Human Relations (3)
The purpose of this course is to demonstrate how the student can become more effective in communication and personal life through knowledge of human relations. A major theme of this course is the relationship between communication skills and success in personal relationships. Students learn communication skills for success in getting a job and on the job.

PSY 104 Growth and Development (3)
This course is a study of the stages and processes of the development of the human, from conception to adulthood. Emphasis is placed upon pertinent research and practical applications. Historical and cultural factors that influence basic assumptions, methodologies, theories, and concepts, are examined to provide students with a more critical perspective from which to evaluate current theories and research.

PSY 134 Psychology of Adjustment (3)
This course explores a study of the dynamics of human behavior from a life adjustment approach. Representative topics will include conceptions of the self, theories of human development, psychosomatic disorders, interpersonal relationships including human sexuality, and disorders of the self.

PSY 200 Drugs and Behavior (3)
The purpose of this course is to introduce students to the theories, research, and research techniques concerned with the action of drugs on the brain, and subsequent behavior in man and other animals. Prerequisite: PSY 101.

PSY 202 Abnormal Psychology (3)
This course examines a range of psychological disorders, including anxiety disorders, personality disorders, sexual disorders, mood disorders, schizophrenia, and organic mental disorders. Also covered in this course are substance abuse, childhood disorders, stress-related disorders, and psychological factors in physical illness. This course reflects current thinking that abnormal behavior can be understood from a combination of biological, psychological, and social points of view.

PSY 205 Principles in Treatment (3)
This course involves studies of the various treatment approaches used with alcohol and drug abusers with an emphasis on the principles that govern their effective application. There will be a focus on Intervention, Assessment, and Treatment Plan Development with the substance abuser resulting in meaningful change and a better quality of life.

PSY 206 Prevention of Drug and Alcohol Abuse (3)
This course examines effective programs and strategies used in the schools and in the community that prevent substance abuse and related problems. Emphasis is on how to design an appropriate, effective prevention program in either the schools or the community, which will prevent or reduce the incidence of drug or alcohol abuse in a particular high-risk population.

Range Science

RGSC 100 Introduction to Plant Science (3)
This introductory course in plant science addresses the fundamentals of agricultural plants with emphasis on nature, the environment and strategies of crop production. Emphasis on the ecological process for sustainable plant development will be explored as well as the identification of agricultural plants.

RGSC 294 Range Management (3)
This course familiarizes the student with practical problems and solutions in managing pasture and range lands, including studies of vegetation, maintenance, production, reseeding and control of poisonous plants. Methods of handling livestock on the range and utilization of forage are studied. Prerequisite: RGSC 100.

Religion

REL 101 Old Testament (3)
The introductory course in religion concerns the history, literature and teaching of the Old Testament. Topics include the Creation story, biographical study of the Patriarchs, an overview of Pentateuch and Hebrew Law, the history of the Judges and the Prophets, and the special relationship of the Israelites with God. Poetical literature of the Old Testament will also be surveyed.

REL 103 New Testament (3)
This introductory course in religion concerns the history, literature and teaching of the New Testament. This course will have an emphasis on the teaching and life of Christ, the beginning of the early Christian church, the issues and problems encountered, and the influence of the Apostle Paul on the development and spread of Christianity.

REL 106 Jesus and the School of Healing (3)
This introductory course takes a holistic approach to the biblical concept of healing. Topics include introduction to selected Old Testament passages with major emphasis in New Testament passages containing the aspects of healing concepts. These passages are an introductory exposure of the student to a broad understanding of the role of the Christian churche's healing ministry in the twenty-first century. This will include introduction to the historical concepts, theological concepts, sacramental concepts, current models of holistic medicine concepts, and an introduction to authors with writings of relevance. Exposure to current works regarding death and dying, stress management, and related holistic theories will be included.

REL 211 The Acts of the Apostles (3)
This course presents an academic study of the Biblical New Testament book of "The Acts of the Apostles," with a focus on history and geography. Students will explore the origin, nature, vitality and expansion of the New Testament Church during the first century. Students will learn of the work of the Apostle Peter and other early Christian leaders in Palestine, the missionary journeys of the Apostle Paul, and the spread of early Christianity beyond Palestine.

REL 231 History of the Christian Church (3)
This course is designed to be an overview of the history of Christianity from its inception to the present. There will be a focus on how philosophical thought and religious belief pre-determine societal stability, values and morals, as well as influencing the individual level of self-worth.

REL 293A Beliefs and Believers (3)
In this course the student develops an understanding of what they believe and why they believe it. The student will gain some initial exposure to the religious systems of major world religions: Hinduism, Buddhism, Taoism, Confucianism, Judaism, Christianity, and Islam as well as systems of belief which are outside the scope of what are deemed to be mainstream religious institutions, such as new age religions, neo-paganism, and "civil" religion.

Social Work

SW 218 Introduction to Social Welfare (3)
This course critically examines the approach to human service delivery and the many social welfare issues facing the United States, the Southwest, and New Mexico. The social work professional mission, philosophy, ethics values, diverse fields of practice and ethnic-cultural perspectives will be explored via field visits, observations, interviews and guest speakers. For social work majors, the course provides a foundation for the completion of their program of study. For non-majors, it provides information and experiences which can delineate a more informed response to social problems.

SW 290 Internship in Social Welfare (3)
The purpose of internship in social welfare is to render students the opportunity to apply classroom knowledge to practice. Toward that end, the internship requires students to be placed with a community agency. In their respective agency placement, students are expected to demonstrate social work skills, knowledge, and values in working with individuals, groups, families, and communities. The internship can be done fall or spring semester or during the summer session. Prerequisite: SW 218.

Sociology

SOC 100 Framework for Change (1)
A Framework for Change is a video-based training series designed for men and women who face the challenge of overcoming a substance-abuse problem. The series provides a framework of concepts and techniques that focus on the underlying barriers to recovery. A Framework for Change provides critical thinking skills that assist the participant in making lifestyle changes that are necessary for long-term recovery. Prerequisite: Sentenced by the courts.

SOC 101 Introductory Sociology (3)
This course introduces the student to basic concepts, issues, and theories taken from contemporary sociolog-

ical research. Emphasis is given to a macro-sociological orientation highlighting such topics as social stratification, groups and organizations, social institutions, and social change. (SOCI 1113 - Area IV)

SOC 103 Cultural Diversity (3)
This course examines, from a theoretical and experiential social work perspective, the personal behaviors and institutional factors that have led to oppression of ethnic minorities and various cultural groups. Attention is given to discriminatory practices as related to sex, age, religion, disablement, sexual orientation, and culture. The course explores the strategies that the various groups have employed to deal with discrimination. Implications to the individual, society, and the profession are explored.

SOC 105 Rural America (3)
Change and diversity are the terms most descriptive of rural America today. This course addresses four themes which characterize the social and economic contexts within which rural communities must address their problems. Each section examines rural communities from a different perspective, enabling students to explore the complexity and diversity among communities. Collectively the four sections examine the process of community development and transition -- exploring the ways in which history, culture, and policies limit change as well as the extent to which local community resources can mobilize to support efforts at community change.

SOC 115 Tackling The Tough Skills (1)
Tackling the Tough Skills is a curriculum designed for men and women who are struggling with the basic components for success in all areas of their lives. The approach is holistic in scope. Participants are placed in a variety of settings which encourages cross-over from individualized thinking to thinking within the framework of family, work, and community. The basic tenets of the curriculum include attitude, responsibility, communication, decision making/problem solving, and preparing for the workplace.

SOC 212 Contemporary Social Issues (3)
This course is a study of the nature, scope, and effects of the major social problems of today and the theoretical preventive measures to alleviate them. The course will familiarize the student with sociological approaches to problems such as poverty, crime and delinquency, sexual behavior, mental disorders, drug use, corporate power, and other issues selected by the instructor. (SOCI 2113 - Area IV).

SOC 215 Marriage and the Family (3)
This course is a comprehensive coverage of relationships and interactions between families and society. Students will discover the nature of families, community, ecology, children with special socialization needs, culture of minority children, marriage and divorce. Topics may include courtship, engagement, marriage and parenting in a changing society. (SOCI 2213 - Area IV)

SOC 217 Introduction to Women's Studies (3)
This course is designed to help students identify, understand and defuse gender stereotypes and barriers. A control goal is to empower women to take charge of their own lives. Topics include sexuality, socialization, self-esteem, leadership, motherhood and transcending victimization models of feminism and femininity.

SOC 218 Empowering Women (3)
This course is a continuation of Introduction to Women's Studies and is designed to help students identify, understand and defuse gender stereotypes and barriers. A control goal is to empower women to take charge of their own lives. Topics include sexuality, socialization, self-esteem, leadership, motherhood and transcending victimization models of feminism and femininity.

SOC 223 Sociology of Aging (3)
This is an introductory gerontology course for students interested in behavioral, social, or family studies. The course is designed to understand the separate processes of biological, psychological, and social aging and how these aging processes interact with each other and with our environment.

Theatre

THTR 101 Introduction to Theatre (3)
This course is designed to introduce students to theatre, including acting, dramatic techniques and costuming. The study of stage operations, costume design and criticism will be explored through discussion. Students will have the opportunity to participate in acting and study the requirements of a stage production. (THTR 1013 - Area V)

Welding

TSC 100 Welding I (1)
This course is designed for introductory level welding and cutting processes to enhance technical skills. This course consists of understanding the theory and practice of Oxy-acetylene welding and cutting as well as shielded metal arc welding. Lab will consist of exercises in oxy-acetylene cutting and arc welding.

TSC 101 Welding II (1)
TSC 101 is a continuation of TSC 100. Students receive additional practice in oxygen-acetylene and arc welding, brazing and cutting as well as shield metal arc welding (AC/DC). Laboratory will consist of exercises

in oxy-acetylene and arc welding. Simple projects may be introduced. Prerequisite: TSC 100.

TSC 106 Applied Welding (3)
Applied welding is a course designed to provide students with hands-on training in oxy-acetylene welding, brazing, and cutting, as well as shield metal arc welding (AC/DC). Students also will work with M.I.G. and T.I.G. welding, in addition to building projects.

Wind Energy Technology

WET 100 Introduction to Renewable Energy (3)
This course provides an overview of renewable energies, including solar energy, wind power, hydropower, biomass, hydrogen and fuel cells. Students will learn the basic principles of each technology. Students will investigate the potential of renewable energy technologies to help solve environmental and economic problems with society.

WET 101 Introduction to Wind Energy (3)
This course will cover the use of naturally occurring winds to create electricity. Wind farms, collection devices and current status of wind energy will be discussed. Horizontal Axis and Vertical Axis Turbine systems will be covered. A brief history of wind energy will be included.

WET 105 Electrical Theory I (4)
This course introduces the basic principles of Direct Current (DC) and Alternating Current (AC) theory. Electrical energy applications in basic, capacitive, and inductive circuits will be covered in lecture and laboratory study, as will applications of basic electrical components and systems.

WET 115 Field Safety and Experience (3)
Wind turbine safety principles and practices are provided to ensure that persons working on wind power plants are safeguarded from the hazards associated with the work environment and the electro-mechanical systems therein. Students will obtain field experience involving tower safety and rescue, and will be familiarized with applicable OSHA standards.

WET 116 Introduction to Motors and Generators (3)
The electric motor and generator are critically important devices for generating mechanical and electrical power in nearly all heavy industries, including wind energy. In this course, students will be introduced to the various types of motors and generators commonly found within commercial wind turbines and study their configurations, functions, operational characteristics, and more. Prerequisites: WET 101, WET 115, and WET 205.

WET 121 Wind Turbine Mechanical Systems (3)
This course is designed to familiarize students with the mechanical systems found within industrial wind turbines. These include turbine yaw drive systems, pitch drive systems, primary drive gearboxes, and smaller mechanical systems. Prerequisites: WET 101, WET 105, WET 115, and WET 140.

WET 131 Introduction to Biofuels (1)
This course will focus on the release of chemical energy by accelerating the naturally occurring carbon dioxide cycle and the use of this energy to power engines and generators. Natural fuels and fuels made from plant materials and garbage will be discussed. Engine efficiency and its impact on lower emissions will also be discussed.

WET 133 Introduction to Hydro-Energy (1)
This course provides an overview of both the historical and future uses of capturing the energy of moving water. Topics that will be covered include water wheels, hydroelectricity, damless hydropower, and tidal stream power. Tidal energy and the earth-moon system and gravitational forces will be described while students explore tidal stream systems and barrages.

WET 134 Introduction to Nuclear Energy (1)
Student will study the history of nuclear power, the basic principles of reactor design and operation at commercial nuclear electrical generating facilities. An examination of nuclear waste issues, a study of the important events which occurred at commercial nuclear plants, and a look towards the future of the electrical generating industry will be included.

WET 140 Wind Turbine Climbing and Safety (1)
This course will introduce the student to the environment of a wind turbine. The student will obtain skills of proper identification, inspection, donning, and maintenance of personal protection equipment (PPE) and fall protection equipment. An initial climb test will be administrated with a pass grade to proceed with the Wind Energy Technology plan of study.

WET 141 Wind Turbine Climbing and Safety II (1)
This course will establish hazard awareness to the student in the environment of a wind turbine. The student will obtain skills of proper identification, inspection, reporting, and correcting the hazards. Climb time in this course will emphasize

rigging, hoisting, and nacelle top equipment and proper tie off points. Prerequisite: WET 140

WET 190 Internship in Wind Energy and Turbine Technology (6)
The wind turbine internship gives students the opportunity to apply and practice the skills developed in the first year of the Wind Energy Technology Program in real-world settings at an actual wind farm.

WET 204 Introduction to Hydraulics (3)
This course will introduce the basic elements and applications of hydraulic power. Additional emphasis will be given to circuits, pressure, flow and control of hydraulic systems. Prerequisite: WET 115

WET 205 Electrical Theory II (4)
Electrical Theory II builds upon basic direct current theory and alternating current theory obtained from Electrical Theory I, particularly alternating current and three-phase power generation as it relates to the wind turbine. Prerequisite WET 105.

WET 217 Wind Turbine Siting, Erection, Generation and Distribution (3)
Through the understanding of required steps, the students will be obtaining knowledge of the development of a wind turbine site. Development will include the siting, construction and commissioning of the wind farm. The history of the United States electrical power industry is examined. The concepts of electrical power generated from a wind turbine, transfer through the power distribution system and received by the customer will be examined. Power curves are utilized to determine how much power will be produced by a given turbine at a particular site. Dynamics of interfacing turbines with the power grid are examined. Prerequisite WET 116.

WET 218 Wind Turbine Electronics (4)
This course explores the technologies and methodologies employed by heavy industry to remotely monitor and control power facilities. The study of commercial wind turbine monitoring and control systems will be strongly emphasized, as will the use of such systems to aid in the troubleshooting and maintenance of wind turbines. This course is designed to familiarize students with the principles of digital technology, and the composition of systems that employ it. Emphasis will be given to advanced industrial computerized control and automation systems. Prerequisites: WET 116, WET 205, and WET 219.

WET 219 Wind Turbine Operations, Maintenance, and Repair (4)
This valuable course is designed to introduce students to the general maintenance practices and procedures employed within the wind energy industry. The study of wind turbine mechanical system and subsystem fundamentals will be included. Hands on practice of installation, operation, maintenance, troubleshooting, and repair of wind turbine electro-mechanical systems is included in this course. As well as, real-world troubleshooting scenarios that may be encountered in the wind energy workplace. Prerequisites: WET 121 WET 204, and WET 205.

WET 240 Wind Turbine Climbing and Safety III (1)
This course will instruct the student in the proper procedure of entering the wind turbine hub. The student will obtain the skill of proper lock out tag out the rotor lock. The student will learn to identify the components inside the hub. Climb time will emphasize safe techniques of hub entrance and egression. Prerequisite: WET 141.

WET 241 Wind Turbine Climbing and Safety IV (1)
This course will establish procedures to the student in stopping and starting the wind turbine. The student will obtain skills of proper housekeeping. The student will be introduced to maintenance and troubleshooting techniques. Climb time will evaluate the student's knowledge obtained through all Wind Turbine Climbing and Safety courses.
Prerequisite: WET 240.

WET 250 Tower Safety and Training (1)
This training course is designed for tower workers who oversee other workers on the towers. The training provides individuals with the required skills to safely distinguish evaluate and control hazards related to wind tower work. It also teaches students climbing techniques, proper selection of fall protection equipment and how to correctly rig a variety of rescue equipment for a range of possibilities and rescue a victim considering the probable injuries sustained.

SOL 101 Introduction to Solar Energy (1)
This course will give students an understanding of our solar energy resource and how it can be utilized for a variety of energy demand applications, including passive solar thermal, active solar thermal, and photovoltaics. Principles of energy efficient and solar design analysis and construction will be covered. Students will analyze the solar energy systems and calculate solar savings fractions, backup heat needs, and economic analysis.