Advanced Energy Systems

AES 100 (P/T) 3 Credits
ADVANCED ENERGY SYSTEMS
Quarters: Offered as needed
This introductory course explores the fundamental principles, applications, and technologies of renewable energy systems. Students will examine solar, wind, hydroelectric, geothermal, and biomass energy sources through both classroom instruction and hands-on field experiences. The course covers system components, basic design principles, efficiency calculations, and real-world applications. Technical concepts are reinforced through laboratory exercises and field observations of operational renewable energy installations. At the end of this course, students will be able to evaluate renewable energy systems for specific applications, perform basic system calculations, and recommend appropriate renewable energy solutions based on site-specific requirements.

AES 110 (P/T) 3 Credits
ADV ENRGY SYST I: ENERGY EFFICIENCY
Quarters: Offered as needed
This intermediate course focuses on energy efficiency strategies and applications across residential, commercial, and industrial sectors. Students learn comprehensive approaches to identifying energy waste, conducting energy audits, and implementing conservation measures. Through hands-on laboratory exercises and field studies, students explore building envelope analysis, HVAC systems, industrial process efficiency, and transportation systems. The course emphasizes practical applications of energy-saving technologies and techniques, including cost-benefit analysis and return on investment calculations. At the end of this course, students will be able to conduct basic energy audits, recommend appropriate efficiency measures, and calculate energy savings potential for various applications. Prerequisites: Pass AES 100

AES 120 (P/T) 3 Credits
ADV ENG SYS II: SYSTEM FUNDAMENTALS
Quarters: Offered as needed
This advanced course provides comprehensive analysis of renewable energy systems, focusing on detailed technical principles, performance evaluation, and real-world applications. Students explore the intricate relationships between system design, operational efficiency, and economic viability across various renewable technologies. Through advanced laboratory exercises and system modeling, students learn to evaluate theoretical versus actual system performance, analyze energy storage solutions, and optimize system configurations. The course integrates policy considerations, technical analysis, and economic assessment methods. At the end of this course, students will be able to design, analyze, and optimize renewable energy systems while considering technical, economic, and policy constraints. Prerequisites: Pass AES 100 and AES 110

AES 130 (P/T) 3 Credits
ADV ENG SYS III: INSTALL AND MAINT
Quarters: Offered as needed
This advanced technical course focuses on the practical aspects of installing and maintaining renewable energy systems in residential and commercial settings. Students develop hands-on skills in system installation, troubleshooting, and maintenance procedures while adhering to industry safety standards and building codes. The course emphasizes real-world applications through extensive laboratory work and field exercises. Students learn to conduct thorough site surveys, prepare installation sites, implement preventative maintenance programs, and ensure compliance with local and national regulations. At the end of this course, students will be able to safely install, maintain, and troubleshoot common renewable energy systems according to industry standards and manufacturer specifications. Prerequisites: Pass AES 120

AES 140 (P/T) 3 Credits
ADV ENERGY SYS IV: SYSTEMS DESIGN
Quarters: Offered as needed
This advanced design course integrates previous renewable energy coursework into comprehensive system design projects. Students collaborate in teams to develop complete renewable energy solutions, from initial site survey through final system specification. The course emphasizes real-world design challenges across solar, wind, and micro-hydro applications, including structural considerations, electrical integration, and energy storage solutions. Students utilize industry-standard design tools and practices to create professional system proposals. At the end of this course, students will be able to lead renewable energy system design projects and produce complete technical documentation packages suitable for permit submission and construction. Prerequisites: AES 130

AES 200 (P/T) 3 Credits
ADVANCED ENERGY SYSTEMS CAPSTONE
Quarters: Offered as needed
This final class in the Renewable Energy series will concentrate on a capstone project. Students will evaluate a proposal for an alternative energy solution and then design an installation to meet the needs of the proposal. Students will be expected to perform a site survey, quantify energy requirements, select appropriate technologies, calculate the payback period and finally fabricate an actual or conceptual energy solution where appropriate. At the end of this course, students will be able to develop and present comprehensive renewable energy solutions from initial concept through final implementation. Prerequisites: AES 150

AES 210 (P/T) 3 Credits
INVERTERS, STARTERS, AND STOR DEVICES
Quarters: Offered as needed
This course covers the fundamental principles of battery-based energy systems and their components. Students will learn to analyze customer requirements, design appropriate system architectures, and size components including battery banks, inverters, and charge controllers. The course emphasizes practical applications, safety considerations, and code compliance while providing extensive hands-on experience with system design and installation. At the end of this course, students will be able to design, specify, and implement complete battery-based power systems that meet both customer needs and relevant electrical codes. Prerequisites: AES 100

AES 220 (P/T) 3 Credits
ALTERNATIVE FUELS
Quarters: Offered as needed
This comprehensive course explores the technical, economic, and ecological aspects of alternative fuel systems. Students will gain hands-on experience with various alternative fuel technologies including bio-diesel, vegetable oils, electric vehicles, hydrogen systems, and fuel cells. The course covers fundamental principles, system components, safety considerations, and real-world applications of alternative fuel technologies. Laboratory work includes fuel testing, system analysis, and basic maintenance procedures. At the end of this course, students will be able to evaluate, compare, and work safely with various alternative fuel systems while understanding their practical applications in modern transportation and energy systems. Prerequisites: AES 100

AES 280 (P/T) 1 Credit
ADV ENERGY SYSTEMS CO-OP WORK EXP
Quarters: Offered as needed
Applies actual work experience in a related Career & Technical field. An on-site supervisor evaluates and supervises the work experience student. Requires instructor approval of work setting and placement. Documentation of 36 worksite hours for EACH credit earned.

Ag Eng Tech

AET 212 (P/T) 3 Credits
INDUSTRIAL SAFETY AND MANAGEMENT
Quarters: Fall
Examines and identifies prevention methods for various hazards associated with the agriculture industry. Areas examined include machinery, environmental, and confined spaces. Safety management and governmental compliance will also be addressed.

AET 221 (P/T) 3 Credits
SHOP SKILLS
Quarters: Offered as needed
Develops and builds shop safety techniques and skills through hands-on experience, covering power and hand tools, tool reconditioning, building construction, welding, fasteners, and farm safety. Lab required.

Ag Machine Technology

AMT 111 (P/T) 3 Credits
AG MACHINE MAINTENANCE AND INSPECTION
Quarters: Winter
This course introduces learning to the world of agriculture machinery. Training will include pre-delivery inspection of new machinery and performance of maintenance procedures. Various activities will demonstrate additional equipment add on procedures and safely testing the installed expansion for correct operation. Completing course activities will also develop operating skills for a variety of agriculture machines.

AMT 112 (P/T) 3 Credits
OFF ROAD DIESEL TECHNOLOGY
Quarters: Offered as needed
This course develops knowledge and skills needed to be successful in the off-road diesel equipment industry. Training will include inspection, diagnostics, and repair of diesel-powered equipment. Developing specific skills to diesel systems will expand learning confidence to provide a rewarding career as a service technician of agriculture and construction machinery. Learning will further be empowered to complete tasks related to this equipment field that ensures reliability of repair work and satisfaction of clients the work is completed for. Prerequisites: INED 104, and INED 113

AMT 211 (P/T) 3 Credits
MECHANIZED IRRIGATION
Quarters: Winter
This course introduces the student to the fundamentals of mechanized irrigation systems. Course work includes practical experience with sprinkle, center pivot, and drip irrigation systems. Each system will include experience with pump design and installation. The class includes various site investigations to expand practical experience for developing and servicing an efficient irrigation system. Emphasis will include irrigation service and operation requiring application of various electronic, mechanical, and control system skills. Prerequisites: INED 107, INED 101, INED 113

AMT 212 (P/T) 4 Credits
AG MACHINE CAPSTONE
Quarters: Spring
The Capstone Project includes a senior project and capstone experience to provide an exploratory opportunity to specialize in a focus area of agricultural machinery. Projects will draw on interest areas of the student to independently research an inquiry from the program such as safety, maintenance, agriculture machinery, equipment innovations, hydraulic systems, electrical systems, or agriculture structures. The individual capstone is intended to link theory with real world application to be extended into life long career success. Students will work with instruction to select and develop a capstone project to exemplify the depth of knowledge and skills attained in throughout the program. Upon project completion students will present the results through a community event. Project artifacts may be displayed through actual constructions, equipment demonstrations, digital resources, textual research, or other media to accurately represent the experience. Prerequisites: AMT 112, AMT 211

Ag Resource Economics

AREC 201 (P/T) 3 Credits
AGRICULTURE ACCOUNTING
Quarters: Winter
Teaches proper farm record keeping, including income, expenses, inventory, depreciation, crop and livestock. Utilizes a computerized system for such records, and calculates end-of-year totals for income tax purposes. Some sections may have a no-cost text book option.

AREC 210 (P/T) 3 Credits
FARM BUSINESS MANAGEMENT
Quarters: Fall, Winter, Spring
Teaches students about basic hand record keeping, including inventory, depreciation, and income/expenses. Reviews income tax laws and current regulations for employee records. Discusses basic farm business management terms, forms, and farm ownership types.

AREC 211 (P/T) 4 Credits
MANAGEMENT IN AGRICULTURE
Quarters: Winter, Spring
Applies economic and business principles to the management of agri-business firms, including farms and ranches; goal setting and management information; planning and decision-making tools; and acquiring, organizing, and managing land, labor and capital resources. Some sections may have a no-cost text book option.

AREC 221 3 Credits
MARKETING IN AGRICULTURE
Quarters: Spring
Presents organization and functions of domestic and international markets, market channels for various agricultural commodities, and roles of agri-business, cooperatives, and government in marketing decisions. Discusses, in full detail, the futures market and forward contracting.

AREC 281 (P/T) 3 Credits
GLOBAL AGRICULTURAL MARKETS
Quarters: Fall
Introduces economic and marketing principles in global agricultural markets. Analyzes impacts of foreign policy for exporting and importing countries on agricultural markets. Provides a base knowledge of WTO and GATT history/function in agricultural markets today.

AREC 296 (P/T) 4 Credits
PRODUCTION PROBLEMS
Quarters: Offered as needed
Project oriented course where students will select an agricultural area of focus to create a feasibility study or economic analysis. Currently published data and figures will be used to develop a report. Presentations will be given as a final for the course. Instructor approval required.

Agriculture

AG 111 (P/T) 3 Credits
AGRICULTURE COMPUTERS
Quarters: Fall, Spring
Acquaints students with the use of a micro-computer and software for agricultural uses. Includes farm accounting, spreadsheets, depreciation schedules, rations, PowerPoint, internet/email, and financial analysis.

AG 201 2 Credits
CURRENT ISSUES IN AGRICULTURE
Quarters: Spring
Examines current issues facing all sectors of agriculture. Investigates and considers opposing viewpoints of a variety of groups through guest speakers, seminars, email contact, written and oral presentations. Some sections may have a low-cost text book option.

AG 207 (P/T) 1 Credit
AGRICULTURE SEMINAR
Quarters: Fall
Provides information and self-evaluation in areas of goal setting, educational planning, student activities, electronic student accounts, study skills, and successful navigation of the college system. Emphasizes academic and career plans for students interested in Agriculture.

AG 215 (P/T) 4 Credits
IRRIGATION AND DRAINAGE
Quarters: Spring
Instructs students to design an irrigation system, considering engineering, soil types, crops, seasons, irrigation methods, best management practices, and erosion control measures. Includes a cost estimation of an actual irrigation project.

AG 279 (P/T) 6 Credits
AGRICULTURE INTERNSHIP
Quarters: Offered as needed
Supervised work and learning experience in private, public, business, or government organizations related to the agriculture industry. The internship provides an extension of the classroom learning and includes the opportunity to apply substantial knowledge and skills gain in the academic setting in a supervised, professional work environment. Learn and develop skill outside the classroom. Explore a career field or prepare for a chosen career field through a work experience opportunity. The internship includes a collaborative team consisting of the student, faculty supervisor (course instructor), and a field site supervisor who develop acceptable learning objectives, experiences, and evaluation procedures which enable the student to work in a professional/mentoring setting. Each credit is equivalent to 33 worksite hours. Instructor approval required.

AG 280 1 Credit
AGRICULTURE COOP WORK EXP
Quarters: Summer, Fall, Winter, Spring
Applies actual work experience in a ag-related technical field. An on-site supervisor evaluates and supervises the work experience student. Requires instructor approval of work setting and placement, and documentation of 36 worksite hours for each credit earned.

Animal Science

ANS 107 (P/T) 3 Credits
BASIC HOOF MAINTENANCE
Quarters: Fall
Teaches the basic fundamentals and procedure for shoeing a horse, including tools and safety issues.

ANS 108 (P/T) 3 Credits
ADVANCED HORSESHOEING
Quarters: Winter
Examines principles and techniques for properly trimming and shoeing the horse with conformation and/or disease problems. Prerequisites: ANS 107.

ANS 121 4 Credits
INTRO TO ANIMAL SCIENCE
Quarters: Summer, Fall, Winter, Spring
Introduces animal science, offering a foundation in breeds, genetics, nutrition, marketing, management, ration formulation and facilities planning.

ANS 133 (P/T) 3 Credits
WORKING COW-HORSE
Quarters: Fall
In this course students will learn the skills needed to do day work on ranches and feedlots where horsemanship, stockmanship and roping skills are required including: cattle sorting, gate work, and roping.

ANS 140 (P/T) 2 Credits
EQUINE PACKING AND HARNESS TRAINING
Quarters: Offered as needed
Gain knowledge in preparing a horse to pack and properly train a horse to pull a wagon under harness.

ANS 141 (P/T) 3 Credits
BASIC HALTER TRAINING
Quarters: Fall
Provides the skills needed to train a young horse to lead, stand square, pick up feet, turn on forehand and haunches. Includes grooming and fitting. Some sections may have a low-cost text book option.

ANS 143 (P/T) 3 Credits
ADVANCED HORSE TRAINING
Quarters: Winter
In this course students will learn the process of taking a horse from a snaffle bit to a finished bridle horse, how to use ranch work to instill a strong foundation on an all-around performance horse and how to market and show a horse in a performance horse sale. Prerequisites: ANS 252.

ANS 144 (P/T) 3 Credits
RANCH ROPING
Quarters: Offered as needed
This course will cover the skills and knowledge needed to be safe, efficient and keep low stress on cows, horses and people when using a rope on the ranch.

ANS 146 (P/T) 3 Credits
EQUINE TRAINING QUALITY ASSURANCE
Quarters: Winter, Spring
This course is designed to cover Training Quality Assurance industry quality standards and certifications for working on ranches where horsemanship, stockmanship and roping skills are required.

ANS 150 (P/T) 3 Credits
DRIVING AND PACKING
Quarters: Winter
Gain knowledge in preparing a horse to pack and properly train a horse to pull a wagon under a harness.

ANS 151 (P/T) 1 Credit
BUILDING AND STABLE MANAGEMENT I
Quarters: Fall
Covers the practical application of managing an equine facility. Teaches the proper horse handling skills, risk management, and professionalism required to become a stable worker or stable manager.

ANS 152 (P/T) 1 Credit
BUILDING AND STABLE MANAGEMENT II
Quarters: Winter
Covers the practical application of managing an equine facility. Teaches the proper horse handling skills, risk management, and professionalism required to become a herd manager or equine facility director. Prerequisites: ANS 151

ANS 153 (P/T) 1 Credit
BUILDING AND STABLE MANAGEMENT
Quarters: Spring
Covers the practical application of designing a equine facility for all ages of horses. Prerequisites: ANS 152

ANS 181 (P/T) 2 Credits
FUNDAMENTALS OF EQUESTRIAN SKILLS
Quarters: Fall
Teaches the basic fundamentals of horsemanship and safety issues when handling horses while saddling, bridling, mounting, dismounting and riding.

ANS 182 (P/T) 2 Credits
FUNDAMENTALS OF EQUESTRIAN SKILL II
Quarters: Winter
Teaches the basic fundamentals of horsemanship skills while handling and riding horses. Improves the student's feel, timing, and control while riding up to the lope. Prerequisites: ANS 181, or instructor approval.

ANS 183 (P/T) 2 Credits
FUNDAMENTAL OF EQUESTRIAN SKILL III
Quarters: Fall, Spring
Continues to develop the rider's feel and timing while performing more advanced fundamental maneuvers. Teaches more advanced horse theory and performance skills. Prerequisites: ANS 182

ANS 193 (P/T) 3 Credits
REINING
Quarters: Fall
Introduces horse and rider to the fundamentals of training and competing on a reining horse. Includes working experience in the arena.

ANS 194 (P/T) 3 Credits
FENCE WORK
Quarters: Winter
Introduces horse and rider to the fundamentals of training and competing on a cow horse with an emphasis on fence work.

ANS 195 (P/T) 3 Credits
ROPE HORSE
Quarters: Fall, Spring
This course teaches students how to use ranch work to instill a strong foundation on a rope horse, how to introduce a horse to coming out of the box and how to prepare a horse to be sold as a rope horse, team roping, breakaway or calf-roping horse. Prerequisites: ANS 143 or Instructor approval

ANS 200 (P/T) 3 Credits
LIVESTOCK SKILLS
Quarters: Spring
Presents the proper techniques of basic livestock skills, such as branding, implanting, and heat synchronization. Stresses livestock handling, sanitation, facility design, quality beef assurance, and personal safety. Includes skills demonstrated by a qualified veterinarian.

ANS 201 2 Credits
BEEF QUALITY ASSURANCE
Quarters: Offered as needed
Teaches state-of-art technology and trends in the beef industry to produce a competitive, safe, wholesome food source for consumers. Taught on a workshop basis with many industry expert presentations and local field trips.

ANS 205 (P/T) 2 Credits
FOOD ANIMAL HEALTH AND DISEASE
Quarters: Summer, Winter
Studies food animal (bovine, ovine and swine) physiology and health. Including nutritional, metabolic and reproductive disorders; as well as preventative measures and treatments available.

ANS 210 (P/T) 3 Credits
FEED AND RATION FORMULATION
Quarters: Spring
Covers feedstuffs, their analysis, and animal use. Studies how processing affects bio-availability of feeds, mixing feeds to meet specific animal requirements, and meeting animal needs as they change due to increased production, reproduction, and growth. Teaches ration formulation by hand methods and computer. Prerequisites: ANS 121, ANS 211 preferred.

ANS 211 (P/T) 3 Credits
APPLIED ANIMAL NUTRITION
Quarters: Winter, Spring
Covers all aspects of animal nutrition, including analysis of feedstuffs, the anatomy of ruminant and non-ruminant, nutrient metabolism, and the in-depth discussion on the required nutrients (water, protein, lipids, carbohydrates, minerals, and vitamins). Prerequisites: ANS 121 recommended.

ANS 215 (P/T) 3 Credits
BEEF/DAIRY CATTLE PRODUCTION
Quarters: Winter
Covers the history and development of beef cattle, their distribution and adaptation, the types and breeds of beef and dual-purpose cattle, and the fundamental principles of establishing a beef production herd. Discusses cattle, genetics, problems in breeding and feeding, buildings, and equipment.

ANS 216 (P/T) 3 Credits
BEEF PREGNANCY TESTING
Quarters: Fall
Teaches proper techniques for checking beef cows for pregnancy. Discusses anatomy and physiology of cows, the estrus cycle, and a review of diseases associated with reproduction. Much of the class taught in the "field" under actual ranch conditions.

ANS 217 (P/T) 3 Credits
ARTIFICIAL INSEMINATION
Quarters: Spring
Teaches proper procedure in thawing and placing semen in the target area of cattle through "hands-on" experience. Includes nitrogen tank procedure, pregnancy testing, health factors, and genetic selection. Concludes with testing for the Artificial Insemination Certification for Oregon.

ANS 220 (P/T) 3 Credits
INTRO TO HORSE PRODUCTION
Quarters: Fall
Introduces various breeds of horses and their characteristics, including anatomy of the skeletal and muscular system, and parts of the horse and their functions. Discusses the maintenance and purchase of horse equipment, including bits, bridles, grooming supplies, and saddles.

ANS 221 (P/T) 3 Credits
ADVANCED HALTER TRAINING
Quarters: Spring
The course focuses on meeting the industry quality standards for halter training a horse for the public.

ANS 222 (P/T) 3 Credits
EQUINE HEALTH AND DISEASE
Quarters: Winter, Spring
Studies horse health and soundness, including in depth anatomy, diseases, nutrition, soundness or lameness issues, and the available treatments.

ANS 223 (P/T) 3 Credits
EQUINE BUSINESS AND MARKETING
Quarters: Winter
Examines correct procedures in genetic selection, pedigree and performance. Covers developing a bookkeeping system, and how to market, purchase and evaluate horses according to conformation.

ANS 224 (P/T) 2 Credits
PUREBRED HERD IMPROVEMENT
Quarters: Spring
Applies principles learned in livestock breeding to dairy, horses, pigs, and sheep. Provides students a hands-on opportunity to apply what they have learned about selection. Includes several field trips to local farms/ranches to learn breeding program management.

ANS 231 3 Credits
INTRO TO LIVESTOCK EVALUATION
Quarters: Fall
Covers, in depth, basic fundamentals of livestock evaluation and selection of cattle, sheep, swine and goats for herd replacement and market. Teaches students to "see" differences between two or more animals in the areas of structure, muscle, capacity/volume, femininity/masculinity, and eye appeal.

ANS 232 (P/T) 2 Credits
INTERMEDIATE LIVESTOCK EVALUATION
Quarters: Offered as needed
Reviews performance data (including EPD's), and situations/scenarios. Teaches students to describe written and oral differences between cattle, sheep, and swine; also to take notes and describe differences between animals with proper terms and phrases. Prerequisites: ANS 231

ANS 233 (P/T) 3 Credits
ADVANCED LIVESTOCK EVALUATION
Quarters: Offered as needed
Combines all information from the Introduction and Intermediate Livestock Evaluation classes. Teaches students to place livestock classes based on the situation/scenario, performance data, and visual evaluation. Requires students to express their placings with written and oral reasons. Prerequisites: ANS 231 and 232.

ANS 234 3 Credits
LIVESTOCK JUDGING TEAM
Quarters: Offered as needed
Provides the opportunity to compete at regional and national livestock judging contests. Prepares for competition with weekly work-outs, placing livestock classes based on the situation/scenario, performance data, and visual evaluation. Requires students to express their placings with written and oral reasons. Prerequisites: ANS 231, 232, and 233.

ANS 240 (P/T) 2 Credits
INTRO TO ULTRASOUND TECHNOLOGY
Quarters: Winter
Presents information on what ultrasound technology is and how it can be used in animal agriculture. Familiarizes students with ultrasound terminology and machine operations. Includes hands-on opportunities for scanning cattle, sheep, and hogs.

ANS 241 (P/T) 3 Credits
ADVANCED ULTRASOUND TECHNOLOGY
Quarters: Offered as needed
Reviews ultrasound terminology, machine operations, preparing the animal for scanning, and proper procedures for scanning. Practices scanning cattle, sheep, and hogs for fat thickness, ribeye/loineye area, and percent intramuscular fat. Includes interpreting and entering data into a spreadsheet to make carcass predictions. Prerequisites: ANS 240.

ANS 250 3 Credits
INTRO TO MEAT SCIENCE
Quarters: Winter
Follows market animals (cattle, sheep and swine) from the finishing phase to the meat counter. Includes slaughter, meat grading and evaluation, inspection, structure and composition of muscle, conversion of muscle to meat, microbiology and sanitation, cookery of meat, and nutritive value of meat.

ANS 251 (P/T) 3 Credits
INTRO TO COLT STARTING
Quarters: Fall
This class introduces the student to the industry quality standards for starting a horse for the public. This class teaches the industry timeline, quality standards and expectations from the client when receiving payment for training a horse. Students will go through the entire "colt starting" process with an already trained horse to learn correct training philosophy and safety procedures to prepare the student train an un-started horse.

ANS 252 (P/T) 3 Credits
COLT STARTING
Quarters: Winter
This course focuses on applying the knowledge and skill students have received from Intro to Colt Starting to training an un-started horse. The focus of this course will be on safety as students work to meet the industry colt starting standard in training an un-started horse for the public. Prerequisites: ANS 251

ANS 253 (P/T) 3 Credits
INDUSTRY COLT STARTING
Quarters: Spring
This course focuses on taking the confidence students have received from Intro to Colt Starting and Colt Starting to equip students to meet the industry colt starting standard for training horses for the public or become a riding assistant for a trainer in the industry. Prerequisites: ANS 252

ANS 263 (P/T) 3 Credits
BUILDING AND STABLE MANAGEMENT
Quarters: Offered as needed
Covers the practical application of designing and managing a stable for all ages of horses.

ANS 277 (P/T) 2 Credits
EQUINE REPRODUCTION
Quarters: Spring
Presents newer ideas and procedures involved with impregnating mares, along with common problems facing the mares and stallion during the breeding.

ANS 278 (P/T) 3 Credits
PRINCIPLES OF ANIMAL BREEDING
Quarters: Fall, Spring
Covers reproduction anatomy of male and female livestock, and basic genetic terms and principles. Teaches students to design a breeding program utilizing EPD's and performance data based on different breeding systems used in today's livestock operations.

Anthropology

ANTH 110 3 Credits
INTRO TO CULTURAL ANTHROPOLOGY
Quarters: Summer, Winter
Studies the diverse cultures of the modern world, emphasizing the role of culture in human behavior and social structure.

Art Studies

ART 101 3 Credits
INTRO TO VISUAL ARTS
Quarters: Summer, Fall, Winter, Spring
Introduces many facets of art, including an overview of major art movements throughout history, the formal elements of art, various art media, art criticism, explore complex culturally based assumptions that influence the artist and his or her art work, and exercises designed to build perceptual skills. Includes lectures illustrated with slides, power points and audio lectures in Black Board as well as an Art Gallery visitation.

ART 115 3 Credits
BASIC DESIGN - DIGITAL
Quarters: Fall, Winter, Spring
Introduction to the principles and vocabulary of art and design as experienced in a digital environment. Focus will be on the acquisition of technical skills and creative problem solving. Students are introduced to software and hardware used in the commercial design industry. Students will learn principles of color theory, design elements, and typography in the application of solving basic design projects.

ART 116 3 Credits
BASIC DESIGN - PRINT
Quarters: Fall, Spring
Introduces students to the principles and concepts of printed publications. Students will learn elements of corporate identity, page layout, and advanced typography principles through the execution of printed design projects and printed marketing campaigns. Students will gain knowledge of printing standards and the preparation of press ready files as well as the process of professional printing, press checks, and deadlines. Prerequisites: None, but it is preferred that students have already taken ART 115.

ART 117 3 Credits
BASIC DESIGN - USER EXPERIENCE
Quarters: Offered as needed
Introduces students to the concepts of visual web design, user interface design, and user experience design. Focus is oriented towards the planning, content production, and visual design elements to engage a target audience, create products that are easy and enjoyable to use, and lead users towards engagement and call to action. Prerequisites: Pass ART 115

ART 131 3 Credits
DRAWING FUNDAMENTALS
Quarters: Fall, Winter
Introduces students to the basic fundamentals of drawing. Focus is on understating line, value, shading, and one and two point perspective. These are practiced through still life drawing, landscape drawing, cityscapes, and see-through construction drawings. Students work in graphite and practice various shading techniques. Some sections may have a low-cost or no-cost text book option.

ART 132 3 Credits
DRAWING EXPRESSION
Quarters: Fall, Winter
Introduction of expressive communication through drawing portraits, caricatures, hands, and figures. Students learn basic anatomy and proportions to increase drawing construction and expression. Focus is on exploring line, shadows, shadow shapes, light and halftones through the application of charcoal, chalk, ink, and other drawing media. Some sections may have a low-cost or no-cost text book option. Prerequisites: None, but it is preferred that student has previously taken ART 131

ART 133 3 Credits
DIGITAL DRAWING
Quarters: Fall, Winter
Introduces students to digital drawing software and stylus input to achieve various computer based techniques in line, shading, and expression. Also introduces time as an element of drawing through animation. Students will explore character design, basic animation, illustration, and scientific drawing. Some sections may have a low-cost or no-cost text book option.

ART 151 3 Credits
VIDEO PRODUCTION I
Quarters: Offered as needed
Introduces elementary concepts of video production including digital video camera operation, digital non-linear editing, and pre-production planning. Students are taught basic camera techniques, pre-production, and production practices through hands-on learning to develop basic field video skills. Focus is on individual creativity, as well as the importance of teamwork and deadlines. Projects are produced in the context of learning the theory and practice of pictorial continuity as it applies to multimedia productions.

ART 181 3 Credits
BEGINNING PAINTING
Quarters: Summer, Fall, Spring
This course introduces beginning level skills and ideas when learning to paint. Techniques to achieve painted surfaces will be explored and a variety of painting medias will be introduced. Some sections may have a low-cost text book option.

ART 182 3 Credits
INTERMEDIATE PAINTING
Quarters: Summer, Fall, Spring
The course continues and expands on intermediate ability skills and ideas when learning to paint. Techniques to achieve painterly surfaces continue to be explored. Intermediate techniques using a variety of painting media will be applied. Some sections may have a low-cost text book option. Prerequisites: Art 181

ART 183 3 Credits
ADVANCED PAINTING
Quarters: Summer, Fall, Spring
This course continues to expand skills and ideas to an advanced level when learning to paint. Introduction to the technical properties and handling of oil painting as well as related formal and conceptual problems. Learning the art of color mixing, creating 3-dimensional form and space, and surface texture which includes the development of individual style, and the study of contemporary art. Some sections may have a low-cost text book option. Prerequisites: ART 181, 182

ART 199 1 Credit
SPECIAL STUDIES
Quarters: Summer, Fall, Winter, Spring
Presents selected topics of study in art offered on a temporary and experimental basis. Some sections may have a low-cost or no-cost text book option.

ART 204 3 Credits
HISTORY OF WESTERN ART/ANCIENT
Quarters: Fall
Presents art from Prehistoric, Ancient Near East, Aegean, Egytian, Greek, early Christian, Byzantine, Medieval, Gothic and Roman periods. Includes lectures illustrated by slides and supplemented by occasional movies.

ART 205 3 Credits
HISTORY OF WESTERN ART/RENAISSANCE
Quarters: Winter
Presents art from the late Gothic, early Renaissance, Italian Renaissance, Northern Renaissance, and Baroque periods. Includes lectures illustrated with slides and supplemented by art history videos.

ART 206 3 Credits
HISTORY OF WESTERN ART/MODERN
Quarters: Spring
Presents art from Rococo, Romantic, 19th century, and the 20th century periods.

ART 253 3 Credits
CERAMICS I
Quarters: Fall, Winter, Spring
Introduces the history of contemporary ceramics, including materials, methods, and techniques. Stresses both wheel thrown and hand built ceramic construction. Includes gallery visitation. Some sections may have a low-cost or no-cost text book option.

ART 254 3 Credits
CERAMICS II
Quarters: Fall, Winter, Spring
Continues the broad introduction to the history of contemporary ceramics, including materials, methods, and techniques. Stresses both wheel thrown and hand built ceramic construction. Introduces glazing and firing. Includes gallery visitation. Some sections may have a low-cost or no-cost text book option.

ART 255 3 Credits
CERAMICS III
Quarters: Fall, Winter, Spring
Continues the broad introduction to the history of contemporary ceramics, including materials, methods, and techniques. Stresses both wheel thrown and hand built ceramic construction. Introduces glazing and firing. Develops fundamental skills to foster artistic growth. Includes gallery visitation. Some sections may have a low-cost or no-cost text book option.

ART 256 3 Credits
CERAMICS IV (RAKU)
Quarters: Offered as needed
Continues the broad introduction to the history of contemporary ceramics, including materials, methods, and techniques. Stresses both wheel thrown and hand built ceramic construction. Introduces Raku glazing and firing. Develops fundamental skills to foster artistic growth. Includes gallery visitation.

ART 261 3 Credits
BEGINNING PHOTOGRAPHY
Quarters: Offered as needed
Introduces black and white photography focusing on camera handling, camera functions, film processing, printing, editing and composition and editing.

ART 265 3 Credits
BEGINNING DIGITAL PHOTOGRAPHY
Quarters: Summer, Fall, Winter, Spring
Introduces digital photography focusing on camera handling, camera functions, capturing images, composition and editing. This will also introduce the image adjusting software Adobe Photoshop Elements. Basic manipulation of images and presentation of projects will be stressed. Course Note: "This certification mark recognizes that this course met Quality Matters Review Standards" Some sections may have a no-cost text book option.

ART 266 3 Credits
INTERMEDIATE DIGITAL PHOTOGRAPHY
Quarters: Fall, Winter, Spring
Continues to explore and investigate the digital camera and it's many functions. The class will continue to stress composition, lighting and presentation. It involves more complex Photoshop tools and computer skills. Some sections may have a no-cost text book option.
Prerequisites: ART 265 or ART 261

Aviation

AV 101 (P/T) 3 Credits
INTRODUCTION TO AVIATION
Quarters: Fall, Spring
This course introduces the student to Federal Aviation Regulations/Aeronautical Information Manual (FAR/AIM as well as provides a brief history of aviation. Designed to build an understanding of the pilot credentials required for careers in aviation and help students explore various career options within the helicopter and airplane industry. A number of employment opportunities are investigated, including commercial, business, corporate, military and general aviation-related occupations.

AV 104 (P/T) 3 Credits
INTRODUCTION TO AIRCRAFT SYSTEMS
Quarters: Summer, Winter
This course introduces the student to the training aircraft used in general aviation, and will look in detail at those aircraft used in this program. Aircraft in current use for the training by the industry will be studied and emphasis placed on basic aircraft system operations, airworthiness issues, ground handling, and pre-flight inspections.

AV 105 (P/T) 3 Credits
INTRO TO AIRPLANE SYSTEMS
Quarters: Summer, Winter
Introduces the student to training aircraft used in general aviation, and will look in detail at aircraft used in this program. Aircraft in current use for the training by industry will be studied and emphasis placed on basic aircraft system operations, airworthiness issues, ground handling, and pre-flight inspections.

AV 110 (P/T) 3 Credits
GROUND-PRIVATE-AIRPLANE
Quarters: Fall, Spring
This aircraft covers the fundamentals of flight, flight operations, aviation weather, aircraft performance, navigation, aircraft systems, aeronautical publications, FAA recalculations, flight planning, radio procedures, meteorology and human factors. This is a comprehensive course that prepares the student for the FAA Private Pilot Airman knowledge test.

AV 111 (P/T) 3 Credits
GROUND-PRIVATE (ADV) -AIRPLANE
Quarters: Summer, Winter
This course covers more advanced fundamentals of flight, flight operations, aviation weather, aircraft performance, navigation, aircraft systems, aeronautical publications, FAA regulations, flight planning, radio procedures, and human factors. This is a comprehensive course that prepares the student for the FAA Private Pilot Airman knowledge & practical test. Prerequisites: AV 110

AV 112 (P/T) 1 Credit
GROUND-PRIVATE (SIMULATOR) AIRPLANE
Quarters: Offered as needed
This course introduces the student to basic airplane operations prior to in-flight training. The Basic Aviation Training Device simulation is designed to train with realistic scenarios involving takeoffs and landings, stalls, upset recognition and recovery techniques, and ground reference maneuvers. This is part of a comprehensive course that prepares the student for the FAA Private Pilot practical flight test. Course Note: Includes 5 flight, 5 ground hours

AV 115 (P/T) 3 Credits
GROUND-PRIVATE-HELICOPTER
Quarters: Fall, Spring
This course covers the fundamentals of helicopter flight, flight operations, aviation weather, aircraft performance, navigation, aircraft systems, aeronautical publications, FAA regulations, flight planning, radio procedures, meteorology, and human factors. This is a comprehensive course that prepares the student for the FAA Private Pilot airman knowledge test.

AV 116 (P/T) 2 Credits
GROUND-PRIVATE (ADV)- HELICOPTER
Quarters: Summer, Winter
This course covers the fundamentals of helicopter flight, flight operations, aviation weather, aircraft performance, navigation, aircraft systems, aeronautical publications, FAA regulations, flight planning, radio procedures, meteorology, and human factors. This is a comprehensive course that prepares the student for the FAA Private Pilot airman knowledge and Practical test. Prerequisites: AV 115

AV 120 (P/T) 4 Credits
INTRO TO AVIATION SAFETY MGT SYSTEM
Quarters: Summer, Winter
This course introduces the student to Aviation Safety Management Systems (ASMS) as defined by the International Civil Aviation Organization. The student will review U.S. Federal Aviation Administration Advisory Circular AC120-92 guiding ASMS in commercial aviation operations. A comprehensive review of the four components of Policy, Risk Management, Safety Assurance, and Safety Promotion will build a foundational understanding of SMS for aviation operations.

AV 121 (P/T) 3 Credits
RISK MANAGEMENT-AVIATION SMS
Quarters: Fall, Spring
This course covers fundamentals of Aviation Risk Management. Students will comprehend risk management process that may be applied during the major levels of flight operations including Operational Risk Management (ORM), and Strategic Risk Management for corporate planning. Some sections may have a low-cost text book option. Prerequisites: AV 120

AV 122 (P/T) 3 Credits
ASMS-QUALITY ASSURANCE
Quarters: Summer, Winter
Prepares the student to apply Quality Assurance principles to aviation safety systems. Students will study quality assurance and understand its applications for ASMS and continuous improvement. This course provides a comprehensive overview of the five components of assurance including system operation, data collection, assessment, and corrective action. Students will understand how program review and auditing enhance operational safety and efficiency. Prerequisites: AV 120

AV 123 (P/T) 3 Credits
AVIATION BUSINESS AND LEGAL ASPECTS
Quarters: Fall, Spring
This provides the student with a thorough overview of aviation business techniques that improve safety awareness. The lectures discuss how promoting safety improves the operational efficiency, enhances learning, and results in a highly reliable organization. Legal aspects and principles of a positive safety culture will be taught. Some sections may have a low-cost text book option. Prerequisites: AV 120

AV 124 (P/T) 3 Credits
AVIATION HUMAN FACTORS (AHF)
Quarters: Summer, Winter
AHF furthers the student understanding of flight physiology and airman psychology factors that have effects on individual airworthiness. Students will gain awareness of physical and mental indicators that may result in poor decision-making or incapacity in the flight environment. Subjects include discussions on the issues of self-medication, fatigue, physical fitness, and hazardous attitudes as they relate to pilot performance. Students demonstrate knowledge of FAA medical certificate requirements and relate medical standards to personal safety. Prerequisites: AV 120

AV 125 (P/T) 3 Credits
INTRO TO AVIATION ACCIDENT INVESTIG
Quarters: Fall, Spring
This course introduces the student to Aviation Accident Investigation responsibilities, techniques and processes. An understanding of the role a pilot plays in mishaps will prepare them to assist the NTSB and the FAA with their roles in mishap investigation and accident prevention. The development of abilities to recognize human error that leads to a mishap chain of event aids the student to avoid situations and enhance their career development. Prerequisites: AV 120

AV 135 (P/T) 2 Credits
AVIATION GPS
Quarters: Summer, Fall, Winter, Spring
Acquaints the student pilot with global position systems or GPS. Includes what GPS is, its uses, it's shortcomings and will include field experience in the use of equipment. Lab required. Prerequisites: For helicopter students - Successfully complete AV 215 with a C- or better; for Fixed-Wing Students- Successfully complete AV 110 with a C- or better.

AV 136 (P/T) 2 Credits
AVIATION GPS
Quarters: Offered as needed
This course covers the usage of various aviation GPS (global positioning system) systems and how to apply learned techniques to both VFR and IFR scenarios with a Fixed-Wing focus. Practical experience will include the use of several GPS simulators. Lab required. Prerequisite/Corequisite: Pass AV 111 Private Ground-Airplane with a C- or better, or corequisite with AV 111 Advanced Private Ground-Airplane.

AV 208 (P/T) 4 Credits
METEOROLOGY II-WEATHER DECISION
Quarters: Summer, Winter
This course prepares the student to apply fundamental weather information to practical flight planning problems. This course focuses on weather factors that the Federal Aviation Administration identifies as key elements involved in controlled flight into terrain, (CFIT) types of accidents. This course will train aviation students on meteorology to ensure a practical knowledge of weather phenomena, including the principles of frontal systems, icing, fog, thunderstorms, and wind shear. The course emphasizes practical concepts and critical decision-making to enable students to retain and use the information in real world low-level operations, and to mitigate hazardous weather conditions such as thunderstorms or winter flight conditions. Prerequisites/Corequisites: AV 211 or GSCI 109

AV 210 (P/T) 3 Credits
GROUND-INSTRUMENT AIRPLANE
Quarters: Summer, Winter
The instrument Ground School prepares students for the FAA instrument Knowledge test and an FAA instrument flight exam. The course includes an in-depth study of aircraft flight instruments, basic altitude instrument flying, IFR navigation systems and procedures, aviation weather, applicable Federal Aviation Regulations and the required instrument charts for IFR flight. Prerequisites: AV 110,

AV 211 (P/T) 3 Credits
ADV INSTRUMENT PILOT GROUND-AIRPLAN
Quarters: Fall, Spring
This course introduces the student to more advanced procedural tasks including maneuvering of an aircraft solely by reference to instruments, radio navigation procedures and emergency operations prior to in-flight training. The course is designed to train with realistic scenarios involving instrument departures and approach to landing, and use of navigation aids such as GPS, ILS, VOR, and ADF. This is part of a comprehensive course that prepares the student for the FAA Instrument Pilot practical flight test. Prerequisites: AV 210

AV 212 (P/T) 1 Credit
GROUND-INSTRUMENT SIMULATOR
Quarters: Offered as needed
This course introduces the student to procedural tasks including maneuvering of an aircraft solely by reference to instruments, radio navigation procedures and emergency operations prior to in-flight training while using a classroom- based Aviation Training Device simulator. The simulator is designed to train with realistic scenarios involving instrument departures and approach to landing, and use of navigation aids such as GPS, ILS, VOR and ADF. This is part of a comprehensive course that prepares the student for the FAA Instrument Pilot practical flight test. Course Note: Includes 5 flight, 5 ground hours

AV 213 (P/T) 1 Credit
GROUND-INSTRUMENT AIRPLANE
Quarters: Offered as needed
This course introduces the student to more advanced procedural tasks including maneuvering of an aircraft solely by reference to instruments, radio navigation procedures and emergency operations prior to in-flight training while using a classroom-based Aviation Training Device simulator. The simulator is designed to train with realistic scenarios involving instrument departures and approach to landing, and use of navigation aids such as GPS, ILS, VOR, and ADF. This is part of a comprehensive course that prepares the student for the FAA Instrument Pilot practical flight test. Prerequisites: AV 210, AV 212 Course Note: Includes 5 flight, 5 ground hours

AV 215 (P/T) 3 Credits
GROUND-INSTRUMENT-HELICOPTER
Quarters: Fall, Spring
The Instrument rating Ground School for helicopter prepares students for the FAA Instrument knowledge test and an FAA Instrument Rating. This course includes an in-depth study of aircraft flight instruments, basic attitude instrument flying, IFR navigation systems and procedures, aviation weather, applicable Federal Aviation Regulations and the required instrument charts for IFR flight. Prerequisites: AV 115

AV 216 (P/T) 2 Credits
GROUND INSTRUMENT (ADV)- HELICOPTER
Quarters: Summer, Winter
The instrument rating ground school for helicopter prepares students for the FAA instrument knowledge test and an FAA instrument rating. Includes an in-depth study of aircraft flight instruments, basic altitude instrument flying, IFR navigation systems and procedures, aviation weather, applicable Federal Aviation Regulations and the required instrument charts for IFR flight. Prerequisites: AV 215

AV 220 (P/T) 3 Credits
GROUND-COMMERCIAL AIRPLANE
Quarters: Summer, Winter
This course covers the advanced aerodynamics of flight, flight operations, aviation weather, aircraft performance, navigation, aircraft systems, aeronautical publications, FAA regulations, flight-planning, radio procedures, meteorology, and human-factors. This is a comprehensive course that prepares the student for the FAA Commercial Pilot Airman Knowledge test. Prerequisites: AV 110

AV 225 (P/T) 4 Credits
GROUND-COMMERCIAL HELICOPTER
Quarters: Fall, Spring
Covers the advanced aerodynamics of helicopter flight, flight operations, aviation weather, aircraft performance, navigation, aircraft systems, aeronautical publications, FAA regulations, flight planning, radio procedures, meteorology, and human factors. This is a comprehensive course that prepares the student for the FAA Commercial Pilot airman knowledge test. Prerequisites: AV 115

AV 227 (P/T) 1 Credit
FLIGHT LAB PRIVATE-HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The professional pilot course includes certification training for private pilot certification, commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become Certified Flight Instructors (CFI) and Certified Flight Instructors with the instrument (CFII) helicopter ratings.

AV 228 (P/T) 1 Credit
FLIGHT LAB PRIVATE-HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The Professional Pilot Course includes certification training for the commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become certified Flight Instructors (CFI) with the instrument (CFII) helicopter rating.

AV 229 (P/T) 1 Credit
FLIGHT LAB PRIVATE-HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The Professional Pilot Course includes certification training for the commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become certified Flight Instructors (CFI) with the instrument (CFII) helicopter rating. Prerequisites: AV 228

AV 230 (P/T) 1 Credit
FLIGHT LAB INSTRUMENT-HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The professional Pilot Course includes certification training for the commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become certified Flight Instructors (CFI) with the instrument (CFII) helicopter rating. Prerequisites: Completion of AV 228 with a "C" or better and successfully pass FAA Private Pilot check ride.

AV 231 (P/T) 1 Credit
FLIGHT LAB INSTRUMENT-HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The professional pilot course includes certification training for private pilot certification, commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become Certified Flight Instructors (CFI) and Certified Flight Instructors with the instrument (CFII) helicopter ratings.

AV 232 (P/T) 1 Credit
FLIGHT LAB COMMERCIAL-HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The professional pilot course includes certification training for private pilot certification, commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become Certified Flight Instructors (CFI) and Certified Flight Instructors with the instrument (CFII) helicopter ratings.

AV 233 (P/T) 1 Credit
FLIGHT LAB COMMERCIAL-HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The professional pilot course includes certification training for private pilot certification, commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become Certified Flight Instructors (CFI) and Certified Flight Instructors with the instrument (CFII) helicopter ratings.

AV 237 (P/T) 1 Credit
FLIGHT LAB COMMERCIAL-HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The Professional Pilot course includes certification training for the Commercial Pilot Certificate with instrument rating. Some sections may have a no-cost text book option. Prerequisites: AV 230 and 231

AV 245 (P/T) 3 Credits
ADVANCED OPERATIONS-HELICOPTER
Quarters: Fall, Spring
This is a classroom course that introduces students to the operations of turbine helicopters, mountain flying, and external load flying. The mountain flying phase will provide students with a working knowledge of operations in and around mountainous terrain. The external load phase covers basic flying skills with and external long line attached to the aircraft. The turbine phase will introduce students to unique operating characteristics of turbine engines. Prerequisites: AV 115

AV 255 (P/T) 3 Credits
CERTIFIED FLIGHT INSTRUCTOR GROUND
Quarters: Summer, Winter
The Certified Flight Instructor Ground teaches techniques of flight and ground instruction. The Fundamentals of Instruction (FOI) will emphasize how students learn, recognition of hazardous altitudes, and skill retention techniques. Students will learn how to effectively teach all material that is covered in Private, Instrument and Commercial ratings as prescribed by the FAA. This is a comprehensive course that prepares the student for the Fundamentals of Instruction, CFI Knowledge test and CFI Instrument Knowledge test for helicopter instruction. Prerequisites: AV 233, AV 225.

AV 258 (P/T) 3 Credits
CFI GROUND- AIRPLANE
Quarters: Fall, Spring
The Certified Flight Instructor Ground - Airplane course teaches techniques of flight and ground instruction. The Fundamentals of Instruction (FOI) will emphasize the learning process, risk management, and effective teaching methods. Students will learn to teach all material that is covered in Private, Instrument, and Commercial pilot training as prescribed by the FAA. This is a comprehensive course that prepares the student for the Fundamentals of Instructing, Flight Instructor Airplane, and Flight Instructor Instrument Airplane FAA knowledge tests. This course will provide the aeronautical knowledge required by 14 CFR Part 61.185. Prerequisites/Corequisites: AV 220, AV 268, AV 272

AV 261 (P/T) 1 Credit
FLIGHT LAB PRIVATE-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the student pilot to basic flight maneuvers and procedures for fixed-wing aircraft. The program is designed to train with realistic scenarios involving takeoffs and landings, stalls, upset recognition and recovery techniques, and ground reference maneuvers. This is part of a comprehensive course that prepares the student for the FAA Airplane Private Pilot practical flight test and as the prerequisite to taking the Private Pilot - Airplane test.

AV 262 (P/T) 1 Credit
FLIGHT LAB PRIVATE PILOT-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the Student Pilot to basic flight maneuvers and procedures. This is part of a comprehensive course that prepares the student for the FAA Sport Pilot practical flight test. In addition, this course introduces more advanced flight maneuvers and procedures. The program is designed to train with realistic scenarios involving takeoffs and landings, stalls, upset recognition and recovery techniques, and ground reference maneuvers. This is part of a comprehensive course that prepares the student for the FAA Private Pilot practical flight test.

AV 263 (P/T) 1 Credit
FLIGHT LAB ADV PRIVATE-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the Student Pilot to more advanced procedures for cross country flight planning and navigation. The program is designed to train with realistic scenarios involving takeoffs and landings, stalls, upset recognition and recovery techniques, and ground reference maneuvers. This is part of a comprehensive course that prepares the student for the FAA Private Pilot practical flight test. Some sections may have a no-cost text book option. Prerequisites: AV 262

AV 264 (P/T) 1 Credit
FLIGHT LAB INSTRUMENT-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the student to procedural flight tasks focused on operating an aircraft solely by reference to instruments, radio navigation procedures and emergency operations during in-flight training. The flight lab is designed to train with realistic scenarios involving instrument departures and approach to landing, and use of navigation aids such as GPS, ILS, VOR. This is part of a comprehensive course that prepares the student for the FAA Instrument Pilot practical flight test. Prerequisites: Private Pilot Certificate

AV 265 (P/T) 1 Credit
FLIGHT LAB INSTRUMENT-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the student to more advanced procedural flight tasks focused on operating an aircraft solely by reference to instruments, radio navigation procedures and emergency operations during in-flight training. The flight lab is designed to train with realistic scenarios involving instrument departures and approach to landing, and use of navigation aids such as GPS, VOR, and precision/non-precision approaches. This is part of a comprehensive course that prepares the student for the FAA Instrument Pilot practical flight test. Corequisites: AV 210

AV 266 (P/T) 1 Credit
FLIGHT LAB COMMERCIAL-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the private pilot to flight procedures for cross country flight planning and navigation. The program is designed to train with realistic scenarios involving high performance takeoffs and landings and long-distance flight planning. Computations are used to determine center of gravity, weight, and balance for complex aircraft loading. This is part of a comprehensive course that prepares the student for the FAA Instrument Pilot Practical Test. The hours included are needed for the pilot to qualify for the Instrument Airplane Practical Test. Prerequisites: Private Pilot Certificate and completion of AV 263 with a grade of C or higher.

AV 267 (P/T) 1 Credit
FLIGHT LAB COMMERCIAL PLT2-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the private pilot to flight procedures for cross country flight planning and navigation. The program is designed to train with realistic scenarios involving high performance takeoffs and landings and long-distance flight planning. Computations are used to determine the center of gravity, weight, and balance for complex aircraft loading. This is part of a comprehensive course that prepares the student for the FAA Instrument Pilot Practical Test. The hours included are needed for the pilot to qualify for the Instrument Airplane Practical Test. Prerequisites: AV 266

AV 268 (P/T) 1 Credit
FLIGHT LAB COMMERCIAL-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the Pilot to advanced procedures for commercial maneuvers and cross country flight planning and navigation. The program is designed to train with realistic scenarios involving high performance takeoffs and landings, and advanced ground reference maneuvers. Various computations are used to determine center of gravity, weight, and balance, and takeoff/landing performance data. This is part of a comprehensive course that prepares the student for the FAA Commercial Pilot practical flight test. Prerequisites: AV 265 or completion of Instrument Pilot Practical Test

AV 269 (P/T) 1 Credit
FLIGHT LAB COMMERCIAL-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the Pilot to advanced procedures for commercial maneuvers and cross-country flight planning and navigation. The program is designed to train with realistic scenarios involving high performance takeoffs and landings, and advanced ground reference maneuvers. Various computations are used to determine center of gravity, weight, and balance, and takeoff/landing performance data. This is part of a comprehensive course that prepares the student for the FAA Commercial Pilot practical flight test. Prerequisites: AV 268

AV 271 (P/T) 1 Credit
FLIGHT LAB COMMERCIAL-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the pilot to advanced procedures for commercial maneuvers and cross country flight planning and navigation. The program is designed to train with realistic scenarios involving high performance takeoffs and landings, and advanced ground reference maneuvers. Various computations are used to determine center of gravity, weight, and balance, and takeoff/landing performance data. This is part of a comprehensive course that prepares the student for the FAA Commercial Pilot Practical flight test. All hours in this lab are completed in the Advanced Flight Simulator. Prerequisites: AV 265 (Flight Lab Instrument-Airplane) or completion of Instrument Pilot Practical Test.

AV 272 (P/T) 1 Credit
AIRPLANE FLIGHT LAB-COMPLEX AIRCRAF
Quarters: Summer, Fall, Winter, Spring
This course introduces the pilot to advanced procedures for commercial operations and complex aircraft. The program is designed to train with realistic scenarious involving complex aircraft. Various computations are used to determine weight and balance and performance data. Students will learn various propeller and aircraft configurations specific to complex aircraft. This is part of a comprehensive course that prepares the student for the FAA Commercial Pilot practical test. Corequisite: AV 220

AV 278 (P/T) 1 Credit
FLIGHT LAB (ADV)-MULTI ENGINE
Quarters: Summer, Fall, Winter, Spring
This course introduces the pilot to Multi-Engine aircraft operation focused on commercial maneuvers and cross country flight planning and navigation. The program is designed to train with realistic scenarios involving high performance takeoffs and landings, and operations specific to multi-engine aircraft. Various computations are used to determine center of gravity, weight, and balance for complex aircraft loading. This is part of a comprehensive course that prepares the student for the FAA Multi-Engine Pilot practical flight test. Some sections may have a no-cost text book option.

AV 282 (P/T) 1 Credit
FLIGHT LAB CFI- HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The Professional Pilot Course includes certification training for the commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become certified Flight instructors (CFI) with the instrument (CFII) helicopter rating. Prerequisites: Completion of AV 233 with a grade of C or better and successfully pass FAA Commercial Pilot check ride

AV 283 (P/T) 1 Credit
FLIGHT LAB CFI-2-HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The Professional Pilot Course includes certification training for the commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become certified Flight instructors (CFI) with the instrument (CFII) helicopter rating. Some sections may have a no-cost text book option.

AV 284 (P/T) 1 Credit
FLIGHT LAB CFII-HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The Professional Pilot Course includes certification training for the commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become certified Flight instructors (CFI) with the instrument (CFII) helicopter rating.

AV 285 (P/T) 1 Credit
FLIGHT LAB CFII-2-HELICOPTER
Quarters: Summer, Fall, Winter, Spring
The Professional Pilot flight labs provide ground and flight instruction for students desiring careers as professional pilots in the helicopter industry. The Professional Pilot Course includes certification training for the commercial pilot certificate with instrument rating. Professional Pilot students will be prepared to become certified Flight instructors (CFI) with the instrument (CFII) helicopter rating.

AV 290 (P/T) 3 Credits
AVIATION CAPSTONE
Quarters: Summer, Fall, Winter
The aviation capstone is meant for students ready to graduate with all flight ratings completed and enter the job market. Students will learn how to write an effective aviation resume, present themselves as professionals in the field, and prepare for their first aviation job. The course will guide students through Petition for Graduation, ensuring all requirements for associate degree are met and ensure students have the necessary tools for the next step as a Professional Pilot. Prerequisites/Corequisites: AV 220, AV 225

AV 292 (P/T) 1 Credit
FLIGHT LAB CFI-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the Flight Instructor student to procedural flight tasks focused on student instruction while operating an aircraft. The flight lab is designed to train the flight instructor candidate how to instruct basic flight maneuvers with realistic scenarios. This is part of a comprehensive course that prepares the CFI for the FAA Flight Instructor practical flight test. Prerequisites: Completion of AV 268 with a grade of C or better; Completion of Math 93 or higher with a grade of D or better; Completion of WR 115 or higher with a grade of D or better; Completion of PSYC 101 or BA 204 with a grade of D or better.

AV 293 (P/T) 1 Credit
FLIGHT LAB CFI-2-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the Flight Instructor to procedural flight tasks focused on student instruction while operating an aircraft. The flight lab is designed to train the student how to instruct basic flight maneuvers with realistic scenarios. This is part of a comprehensive course that prepares the CFI for the FAA Flight Instructor practical flight test. Prerequisites: AV 268 or Commercial Pilot Certificate.

AV 294 (P/T) 1 Credit
FLIGHT LAB CFII-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the Flight Instructor to procedural flight tasks focused on student instruction while operating an aircraft solely by the reference to instruments, radio navigation procedures and emergency operations during inflight training. The flight lab is designed to train with realistic scenarios involving instrument departures and approach to landing, and use of navigation aids such as GPS, ILS, VOR, and precision/non-precision approaches. This is part of a comprehensive course that prepares the CFI for the FAA Instrument Instructor practical flight test. Prerequisites: AV 292 or Certified Flight Instructor Certificate.

AV 295 (P/T) 1 Credit
FLIGHT LAB CFII-2-AIRPLANE
Quarters: Summer, Fall, Winter, Spring
This course introduces the Flight Instructor to procedural flight tasks focused on student instruction while operating an aircraft solely by reference to instruments, radio navigation procedures and emergency operations during inflight training. The flight lab is designed to train with realistic scenarios involving instrument departures and approach to landing, and use of navigation aids such as GPS, ILS, VOR, and precision/non-precision approaches. This is part of a comprehensive course that prepares the CFI for the FAA Instrument Instructor practical flight test.