AVIATION

The COCC Aviation - Professional Pilot discipline provides students with the knowledge and skills required to enter the exciting world of professional aviation. COCC provides instruction in airplane, helicopter, and unmanned aerial systems in a small class setting with close support of experienced instructors.

https://www.cocc.edu/programs/aviation/

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Department: Business/Aviation
Department Chair: Michael Hansen

Programs

Career and Technical Education


Transfer

- Aviation-Technology and Management (OIT Transfer) Emphasis - Associate of Science (AS) (https://catalog.cocc.edu/programs/aviation/aviation-technology-management-oit-transfer-as/)

Courses

AV 101 Introduction to Aviation (3 Credits)
This course introduces the student to the Federal Aviation Regulations/Aeronautical Information Manual (FAR/AIM). Designed to build an understanding of the pilot credentials required for a career in aviation and help students explore various career options. A variety of employment opportunities are investigated, including commercial, business, corporate, military and general aviation-related business. Emphasis will be given to careers in operations and flight technology. Airplane and helicopter pilot careers will be emphasized.

AV 104 Introduction to Aircraft Systems (4 Credits)
Introduces the student to the training aircraft that are used in general aviation, and will look in detail at those aircraft used in this program. Aircraft in current use for training by industry will be studied and emphasis placed on basic aircraft systems operations, including emergencies. Applicable Federal Aviation Regulations, including the use of Minimum Equipment Lists, will be studied.

AV 108 Meteorology I (4 Credits)
A survey course in atmospheric science that covers weather basics and atmospheric circulations. Included is a systematic development of the following: the atmosphere, energy and temperature, wind, atmospheric moisture, horizontal and vertical pressure patterns, clouds, atmospheric circulation, stability, air masses, fronts, fog, icing, thunderstorms, jet streams and turbulence. Students will study surface weather observations, routine weather reports and forecasts, surface maps and constant pressure maps.

AV 110 Private Pilot - Airplane (5 Credits)
Recommended preparation: MTH 060 or higher or minimum placement Math Level 10.
Provides initial ground instruction in aeronautical skills and knowledge for the FAA Private Pilot certificate. Involves an introduction to fundamentals of flight, aerodynamics, flight operations, airspace, weather and weather products, flight planning, decision-making, human factors, human factors in aviation, and crew resource management. Comprehensive course that prepares student for the FAA Private Pilot airman knowledge written exam.

AV 112 Technically Advanced Aircraft (2 Credits)
Covers the differences in design, handling characteristics, capability and operation of complex avionics packages in today's modern aircraft. Concentrates on the Garmin 430, Garmin 500, Garmin 750, and Garmin 1000 glass cockpit systems, providing hands-on training in the programming and utilization of advanced automated flight decks.

AV 115 Private Pilot-Helicopter (5 Credits)
Recommended preparation: MTH 060 or higher or minimum placement Math Level 10.
Covers fundamentals of flight, flight operations, aviation weather, performance, navigation, aircraft systems, aeronautical publications, FAA regulations, flight planning, radio procedures, meteorology and human factors. Comprehensive course that prepares student for the FAA Private Pilot airman knowledge exam.

AV 117 Helicopter Fundamentals (3 Credits)
Recommended preparation: MTH 060 or higher or minimum placement Math Level 10.
This course covers fundamentals of helicopter flight, flight operations, helicopter performance, navigation, helicopter systems, aeronautical publications, helicopter flight maneuvers, flight planning, radio procedures, meteorology, and human factors.

AV 150 Aerodynamics (4 Credits)
Recommended preparation: MTH 102 (or one course from the foundational requirements math list) or minimum placement Math Level 14.
An in-depth study of aerodynamics, beginning with a brief history of the development of flight and flight theory. The physics of lift, drag, weight and thrust are related to airfoil and aircraft design and operational characteristics. Aircraft stability and control are related to aircraft performance and safety. Students will demonstrate their knowledge of aerodynamics through projects in which they predict aircraft performance.

AV 188 Special Studies: Aviation (1-5 Credits)
Explores topics of current interest in the discipline.

AV 199 Selected Topics: Aviation (1-8 Credits)
This course is in development.
AV 200 Aviation Law (3 Credits)
This course offers an introductory analysis of legal concepts related to the aviation industry, including aircraft operations, airports, fixed based operators (FBOs), contracts, insurance and liability, regulatory statutes, and case law. The historical development of aviation law in the United States is included.

AV 201 Airport Management (3 Credits)
This course is a study of the development of airports and the functions and responsibilities of airport management. This course provides an historical background and studies the roles of various governmental agencies in the management and regulation of airports.

AV 204 Advanced Aircraft Systems (4 Credits)
Recommended preparation: AV 104.
Encompasses a detailed study of aircraft systems and structures and enables the student to progress into heavier, more complex single and multi-engine aircraft. Aircraft in current use by industry will be studied with an emphasis placed on operations, including emergencies. Applicable FAR and Minimum Equipment Lists, will be studied.

AV 208 Meteorology II (4 Credits)
Recommended preparation: AV 108 or instructor approval.
Focuses on application of meteorology theory and the availability, understanding and use of weather products. Emphasis is placed on maximizing aircraft performance and minimizing exposure to weather hazards. Includes examining the weather forecasting models, detailed use and interpretation of graphic weather products, access to telephone and internet weather briefing sites, and utilization of weather products.

AV 210 Instrument - Airplane (5 Credits)
Prerequisites: AV 110 (or Private Pilot Certificate).
The instrument rating ground school prepares students for the FAA Instrument airman knowledge test and an FAA Instrument Rating. Includes an in-depth study of basic attitude instrument flying, IFR navigation systems and procedures, aircraft flight instruments, aviation weather, applicable FARs and the instrument charts required for IFR flight.

AV 215 Instrument Helicopter (5 Credits)
Prerequisites: AV 115 (or Private Pilot Certificate).
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 FARs, and the instrument charts required for IFR flight.

AV 220 Commercial Pilot-Airplane (4 Credits)
Prerequisites: AV 110 (or Private Pilot Certificate).
Ground instruction of aeronaautical skills and knowledge applicable to the FAA Commercial Pilot Certification portion of the Professional Pilot training syllabus. Covers night flight, aviation physiology, advanced aerodynamics, aircraft performance, weight and balance, complex aircraft operations, advanced airplane systems, commercial operations and FAA Regulations for commercial pilots and noncommercial flight operations, with emphasis on human factors, crew resource management, and decision-making.

AV 222A Airplane Flight Lab (1 Credit)
Prerequisites: Instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 222A, AV222B, AV222C introduce the student to the fundamentals of flight, and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 222B Airplane Flight Lab (1 Credit)
Prerequisites: Instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 222A, AV222B, AV222C introduce the student to the fundamentals of flight, and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 222C Airplane Flight Lab (1 Credit)
Prerequisites: Instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 222A, AV222B, AV222C introduce the student to the fundamentals of flight, and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 222D Airplane Flight Lab (1 Credit)
Prerequisites with concurrency: AV 110 (or Private Pilot Certificate),
AV 222A, AV222B, AV222C, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 222D, AV 222E, cover practical training in aircraft instrument flight, basic attitude instrument flying, Instrument Flight Rules (IFR), navigation systems and procedures, applicable federal aviation regulations and the instrument charts required for IFR flight. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 222E Airplane Flight Lab (1 Credit)
Prerequisites with concurrency: AV 110 (or Private Pilot Certificate),
AV 222A, AV222B, AV222C, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 222D, AV 222E, cover practical training in aircraft instrument flight, basic attitude instrument flying, Instrument Flight Rules (IFR), navigation systems and procedures, applicable federal aviation regulations and the instrument charts required for IFR flight. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 222F Airplane Flight Lab (1 Credit)
Prerequisites with concurrency: AV 110 (or Private Pilot Certificate),
AV 222A, AV222B, AV222C, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 222F and AV 222G covers night flight, aviation physiology, advanced aerodynamics, aircraft performance, weight and balance, complex aircraft operations, advanced airplane systems, commercial operations and FAA Regulations for commercial pilots and noncommercial flight operations, with emphasis on human factors, crew resource management and decision-making. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.
AV 222G Airplane Flight Lab (1 Credit)
Prerequisites with concurrency: AV 110 (or Private Pilot Certificate), AV 222A, AV 222B, AV 222C, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 222F and AV 222G covers night flight, aviation physiology, advanced aerodynamics, aircraft performance, weight and balance, complex aircraft operations, advanced airplane systems, commercial operations and FAA Regulations for commercial pilots and noncommercial flight operations, with emphasis on human factors, crew resource management and decision-making. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 222H Airplane Flight Lab (1 Credit)
Prerequisites with concurrency: AV 110 (or Private Pilot Certificate), AV 210 (or Instrument Certificate), AV 220 (or Commercial Pilot Certificate), AV 222A, AV 222B, AV 222C, AV 222D, AV 222E, AV 222F, AV 222G, AV 222I, AV 222J, AV 250 (or Certified Flight Instructor/Instrument Instructor Pilot Certificates) and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 222K, AV 222H emphasize engine failure, multiengine aerodynamics, minimum controllable airspeed, propeller feathering, V-speeds, flight planning, decision-making, human factors and crew resource management. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 222I Airplane Flight Lab (1 Credit)
Prerequisites with concurrency: AV 110 (or Private Pilot Certificate), AV 210 (or Instrument Certificate), AV 220 (or Commercial Pilot Certificate), AV 222A, AV 222B, AV 222C, AV 222D, AV 222E, AV 222F, AV 222G, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 222I, AV 222J will teach techniques of flight and ground instruction, analysis of maneuvers, aircraft performance and federal aviation regulations applicable to flight instructors. Practice ground and flight instructing will be required. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 222J Airplane Flight Lab (1 Credit)
Prerequisites with concurrency: AV 110 (or Private Pilot Certificate), AV 210 (or Instrument Certificate), AV 220 (or Commercial Pilot Certificate), AV 222A, AV 222B, AV 222C, AV 222D, AV 222E, AV 222F, AV 222G, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 222I, AV 222J will teach techniques of flight and ground instruction, analysis of maneuvers, aircraft performance and federal aviation regulations applicable to flight instructors. Practice ground and flight instructing will be required. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 222K Airplane Flight Lab (1 Credit)
Prerequisites with concurrency: AV 110 (or Private Pilot Certificate), AV 210 (or Instrument Certificate), AV 220 (or Commercial Pilot Certificate), AV 222A, AV 222B, AV 222C, AV 222D, AV 222E, AV 222F, AV 222G, AV 222I, AV 222J, AV 250 (or Certified Flight Instructor/Instrument Instructor Pilot Certificates) and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 222K, AV 222H emphasize engine failure, multiengine aerodynamics, minimum controllable airspeed, propeller feathering, V-speeds, flight planning, decision-making, human factors and crew resource management. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 225 Commercial Pilot-Helicopter (4 Credits)
Prerequisites: AV 115 (or Private Pilot Certificate).
Reviews the principles of flight, aircraft systems, pertinent federal aviation regulations and airman publications and service in order to prepare the student for the FAA Commercial Helicopter Pilot airman knowledge exam.

AV 227A Helicopter Flt Lab Series I (1 Credit)
Prerequisites: Instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 227A, AV 227B, AV 227C introduce the student to the fundamentals of flight, and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 227B Helicopter Flt Lab Series I (1 Credit)
Prerequisites: Instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 227A, AV 227B, AV 227C introduce the student to the fundamentals of flight, and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 227C Helicopter Flt Lab Series I (1 Credit)
Prerequisites: Instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 227A, AV 227B, AV 227C introduce the student to the fundamentals of flight, and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 227D Helicopter Flt Lab Series I (1 Credit)
Prerequisites with concurrency: AV 115 (or Private Pilot Certificate), AV 227A, AV 227B, AV 227C, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 227D, AV 227E, AV 227N cover practical training in aircraft instrument flight, basic attitude instrument flying, Instrument Flight Rules (IFR), navigation systems and procedures, applicable federal aviation regulations and the instrument charts required for IFR flight. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements. Additionally, students will earn the basic night vision goggle endorsement coincident to their instrument training.
AV 227E Helicopter Flt Lab Series I (1 Credit)
**Prerequisites with concurrency:** AV 115 (or Private Pilot Certificate), AV 227A, AV 227B, AV 227C, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 227D, AV 227E, AV 227N cover practical training in aircraft instrument flight, basic attitude instrument flying, Instrument Flight Rules (IFR), navigation systems and procedures, applicable federal aviation regulations and the instrument charts required for IFR flight. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements. Additionally, students will earn the basic night vision goggle endorsement coincident to their instrument training.

AV 227F Helicopter Flt Lab Series I (1 Credit)
**Prerequisites with concurrency:** AV 115 (or Private Pilot Certificate), AV 215 (or Instrument Pilot Certificate), AV 227A, AV 227B, AV 227C, AV 227D, AV 227E, AV 227N, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 227F, AV 227G, AV 227H include review and refinement of the principles of flight, flight maneuvers, aircraft systems, pertinent federal aviation regulations, airman publications and services, advanced aerodynamics, aircraft performance, and complex aircraft operations. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 227G Helicopter Flt Lab Series I (1 Credit)
**Prerequisites with concurrency:** AV 115 (or Private Pilot Certificate), AV 215 (or Instrument Pilot Certificate), AV 227A, AV 227B, AV 227C, AV 227D, AV 227E, AV 227N, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 227F, AV 227G, AV 227H include review and refinement of the principles of flight, flight maneuvers, aircraft systems, pertinent federal aviation regulations, airman publications and services, advanced aerodynamics, aircraft performance, and complex aircraft operations. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 227H Helicopter Flt Lab Series I (1 Credit)
**Prerequisites with concurrency:** AV 115 (or Private Pilot Certificate), AV 215 (or Instrument Pilot Certificate), AV 227A, AV 227B, AV 227C, AV 227D, AV 227E, AV 227N, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 227F, AV 227G, AV 227H include review and refinement of the principles of flight, flight maneuvers, aircraft systems, pertinent federal aviation regulations, airman publications and services, advanced aerodynamics, aircraft performance, and complex aircraft operations. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 227I Helicopter Flt Lab Series I (1 Credit)
**Prerequisites with concurrency:** AV 115 (or Private Pilot Certificate), AV 215 (or Instrument Pilot Certificate), AV 227A, AV 227B, AV 227C, AV 227D, AV 227E, AV 227F, AV 227G, AV 227H, AV 227N, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 227I, AV 227J will teach techniques of flight and ground instruction, analysis of maneuvers, aircraft performance and federal aviation regulations applicable to flight instructors. Practice ground and flight instructing will be required. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements. Students will meet the eligibility requirement of 15 hours pilot-in-command (in the aircraft appropriate to the rating) during the instrument (R44) and commercial (R22) phases of training.

AV 227J Helicopter Flt Lab Series I (1 Credit)
**Prerequisites with concurrency:** AV 115 (or Private Pilot Certificate), AV 215 (or Instrument Pilot Certificate), AV 227A, AV 227B, AV 227C, AV 227D, AV 227E, AV 227F, AV 227G, AV 227H, AV 227N, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 227I, AV 227J will teach techniques of flight and ground instruction, analysis of maneuvers, aircraft performance and federal aviation regulations applicable to flight instructors. Practice ground and flight instructing will be required. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements. Students will meet the eligibility requirement of 15 hours pilot-in-command (in the aircraft appropriate to the rating) during the instrument (R44) and commercial (R22) phases of training.

AV 227N Helicopter Flt Lab Series I (1 Credit)
**Prerequisites:** Instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228A, AV 228B, AV 228C introduce the student to the fundamentals of flight, and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 228A Helicopter Flt Lab Series II (1 Credit)
**Prerequisites:** Instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228A, AV 228B, AV 228C introduce the student to the fundamentals of flight, and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 228B Helicopter Flt Lab Series II (1 Credit)
**Prerequisites:** Instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228A, AV 228B, AV 228C introduce the student to the fundamentals of flight, and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 228C Helicopter Flt Lab Series II (1 Credit)
**Prerequisites:** Instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228A, AV 228B, AV 228C introduce the student to the fundamentals of flight, and the practical application of aviation weather, performance, navigation, FAA regulations, flight planning, radio procedures, and human factors. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.
AV 228D Helicopter Flt Lab Series II (1 Credit)
Prerequisites with concurrency: AV 115 (or Private Pilot Certificate), AV 228A, AV 228B, AV 228C, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228D, AV 228E, AV 228N cover practical training in aircraft instrument flight, basic attitude instrument flying, Instrument Flight Rules (IFR), navigation systems and procedures, applicable federal aviation regulations and the instrument charts required for IFR flight.
The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements. Additionally, students will earn the basic night vision goggle endorsement coincident to their instrument training.

AV 228E Helicopter Flt Lab Series II (1 Credit)
Prerequisites with concurrency: AV 115 (or Private Pilot Certificate), AV 228A, AV 228B, AV 228C, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228D, AV 228E, AV 228N cover practical training in aircraft instrument flight, basic attitude instrument flying, Instrument Flight Rules (IFR), navigation systems and procedures, applicable federal aviation regulations and the instrument charts required for IFR flight.
The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements. Additionally, students will earn the basic night vision goggle endorsement coincident to their instrument training.

AV 228F Helicopter Flt Lab Series II (1 Credit)
Prerequisites with concurrency: AV 115 (or Private Pilot Certificate), AV 215 (or Instrument Pilot Certificate), AV 228A, AV 228B, AV 228C, AV 228D, AV 228E, AV 228N, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228F, AV 228G, AV 228H include review and refinement of the principles of flight, flight maneuvers, aircraft systems, pertinent federal aviation regulations, airman publications and services, advanced aerodynamics, aircraft performance, and complex aircraft operations.
The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 228G Helicopter Flt Lab Series II (1 Credit)
Prerequisites with concurrency: AV 115 (or Private Pilot Certificate), AV 215 (or Instrument Pilot Certificate), AV 228A, AV 228B, AV 228C, AV 228D, AV 228E, AV 228N, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228F, AV 228G, AV 228H include review and refinement of the principles of flight, flight maneuvers, aircraft systems, pertinent federal aviation regulations, airman publications and services, advanced aerodynamics, aircraft performance, and complex aircraft operations.
The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 228H Helicopter Flt Lab Series II (1 Credit)
Prerequisites with concurrency: AV 115 (or Private Pilot Certificate), AV 215 (or Instrument Pilot Certificate), AV 228A, AV 228B, AV 228C, AV 228D, AV 228E, AV 228N, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228F, AV 228G, AV 228H include review and refinement of the principles of flight, flight maneuvers, aircraft systems, pertinent federal aviation regulations, airman publications and services, advanced aerodynamics, aircraft performance, and complex aircraft operations.
The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements.

AV 228I Helicopter Flt Lab Series II (1 Credit)
Prerequisites with concurrency: AV 115 (or Private Pilot Certificate), AV 215 (or Instrument Pilot Certificate), AV 225 (or Commercial Pilot Certificate), AV 228A, AV 228B, AV 228C, AV 228D, AV 228E, AV 228F, AV 228G, AV 228H, AV 228N, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228I, AV 228J will teach techniques of flight and ground instruction, analysis of maneuvers, aircraft performance and federal aviation regulations applicable to flight instructors. Practice ground and flight instructing will be required. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements. Students will meet the eligibility requirement of 15 hours pilot-in-command (in the aircraft appropriate to the rating) during the instrument (R44) and commercial (R22) phases of training.

AV 228J Helicopter Flt Lab Series II (1 Credit)
Prerequisites with concurrency: AV 115 (or Private Pilot Certificate), AV 215, 225 (or Instrument Pilot Certificate and Commercial Pilot Certificate), AV 228A, AV 228B, AV 228C, AV 228D, AV 228E, AV 228F, AV 228G, AV 228H, AV 228N, and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228J, AV 228I will teach techniques of flight and ground instruction, analysis of maneuvers, aircraft performance and federal aviation regulations applicable to flight instructors. Practice ground and flight instructing will be required. The completion of the associated flight labs will also insure compliance with Federal Aviation Administration flight hour and certification requirements. Students will meet the eligibility requirement of 15 hours pilot-in-command (in the aircraft appropriate to the rating) during the instrument (R44) and commercial (R22) phases of training.

AV 228N Helicopter Flt Lab Series II (1 Credit)
Prerequisites with concurrency: AV 115 (or Private Pilot Certificate), AV 228A, AV 228B, AV 228C and instructor approval based on proof of valid Second Class (or higher) Medical Certificate.
AV 228D, AV 228E, AV 228N cover practical training in aircraft instrument flight, basic attitude instrument flying, Instrument Flight Rules (IFR), navigation systems and procedures, applicable federal aviation regulations and the instrument charts required for IFR flight. Ensures compliance with Federal Aviation Administration flight hour and certification requirements. Students will earn the basic night vision goggle endorsement coincident to their instrument training.

AV 230 Multiengine Pilot (2 Credits)
Prerequisites: AV 220 (or Commercial Pilot Certificate) and AV 250 (or Certified Flight Instructor/Flight Instructor with Instrument).
Ground instruction of aeronautical skills and knowledge applicable to the commercial multi-engine pilot certification. Emphasis is on engine failure, multiengine aerodynamics, minimum controllable airspeed, propeller feathering, V-speeds, flight planning, decision-making, human factors, and crew resource management.

AV 235 Human Factors (4 Credits)
An introduction to the field of human behavior and characteristics as critical factors in the design and operation of electronic/machine systems. Emphasis is on crew resource management and human factors, including the study of human performance in complex systems with an examination of personality, stress, anxiety, fatigue, communication skills, decision-making, situational awareness, analysis of aviation and accidents, and practical application of human factors and performance to modern aviation.
AV 245 Advanced Helicopter Operations (4 Credits)
The course will address advanced helicopter operations in a ground school environment. Students will be introduced to operations of turbine helicopters. The mountain flying phase will provide students with a working knowledge of operations in and around mountainous terrain. The external load phase covers the basic skills of flying with an external longline attached to the aircraft. The night vision goggle (NVG) phase will introduce the student to a new realm of flying safely at night, and will be completed using an Internet based FAA approved Part 141 training syllabus and classroom instruction. Students will also be introduced to the unique aspect of overwater operations. NVG course licensing fee applies. See aviation program director for current course fee.

AV 246 Aviation Safety (3 Credits)
A detailed introduction into aspects of aviation safety, intended to promote flight safety in the general aviation and training environment. Topics include risk management, pilot psychology, human factors, accident trends, analysis of accident reports, and safety survival.

AV 250 Certified Flight Instructor-Airplane (5 Credits)
Prerequisites: AV 210 (or Instrument Rating) and AV 220 (or Commercial Pilot Certificate).
Provides the flight instructor applicant with fundamental concepts and practice for successful flight instruction at the recreational, private and commercial pilot level. Elements include fundamentals of instruction, developing lesson plans for private pilot and commercial pilot syllabus, designing curriculum, creating objective evaluation and grading criteria, and practical application in presenting technical material in an interactive classroom setting. Two FAA airman knowledge tests are required to obtain the CFI certificate, and a third is recommended. See Aviation Program director for current fees.

AV 255 Certified Flight Instructor-Helicopter (5 Credits)
Prerequisites: AV 215 (or Instrument Pilot Certificate), AV 225 (or Commercial Pilot Certificate and instructor approval based on proof of valid Second Class (or higher) Medical Certificate).
Teaches techniques of flight and ground instruction, analysis of maneuvers, aircraft performance and federal aviation regulations applicable to flight instructors. Practice instructing will be required. Student will prepare for the FAA Fundamentals of Instruction (FOI), CFI Helicopter, and Advanced Ground Instructor (AGI) exams. See Aviation Program director for current fee schedule.

AV 271 Introduction to Unmanned Aerial Systems (4 Credits)
Prerequisites: instructor approval.
This course introduces students to the history of Unmanned Aerial Systems (UAS) and surveys current UAS platforms, sensors, terminology, challenges to integrating unmanned systems into the national airspace system, operational theory, and the Federal Aviation Administration (FAA) certificate of authorization (COA) process.

AV 272 Unmanned Aerial Systems (UAS) Operations (5 Credits)
Recommended preparation: AV 271.
Surveys current UAS platforms, sensors, and terminology. Explores integration and application of UAS resources in United States Airspace. Focuses on building and executing simulated operations in a noncombative environment.

AV 273 Unmanned Aerial Sys Ops Maint (5 Credits)
Prerequisites: AV 272.
Recommended preparation: AV 271.
Progression to higher level simulation and mission planning/ execution. Includes a transition from the classroom setting to field operations for actual launches, recoveries, and maintenance of Unmanned Aerial Systems.