

AVIATION (AV)

AV 100 Private Pilot Ground 3 sem. hrs.

Provides the student with the knowledge to meet the requirements for a Private Pilot Certificate with an airplane category rating and class rating. Instruction includes aerodynamics and the principles of flight, aircraft systems, meteorology and weather data services, airspace, air traffic control, radio communications, federal aviation regulations, aeromedical factors, aeronautical charts and associated publications, aircraft performance and limitations, basic and radio navigation, night flying procedures, flight planning, flight maneuvers, and ground operations.

AV 100L Private Pilot Flight (Lab) 1 sem. hr.

Provides the student with the skill in airplane ground and flight operations to include take-off and landing, basic flight maneuvers, cross country methods, and emergency procedures. This course prepares students for the required FAA Private Pilot Airplane Practical Test.

AV 200 Instrument Rating Ground 3 sem. hrs.

Provides the student with the knowledge of instrument flight rules (IFR) operation to include maintaining flight by reference to instruments, understanding and becoming proficient in the use of navigation systems, procuring and using aviation weather reports and forecasts, and maintaining good crew resource management with communication and coordination.

AV 200L Instrument Rating Flight (Lab) 1 sem. hr.

Provides the student with the skill and aeronautical experience necessary to meet the requirements for the FAA Instrument Rated pilot. Stresses attitude instrument flying techniques, instrument departure and approach procedures, instrument en route and cross-country navigation techniques while in actual or simulated weather conditions with reference solely to the flight instruments. Prepares students for the required FAA Instrument Airplane Practical Test.

AV 300 Commercial Pilot Ground 3 sem. hrs.

Provides the student with the knowledge necessary to meet the requirements of the FAA Commercial Pilot Certificate with an airplane category rating and class rating. Topics covered include preflight preparation and procedures, complex aircraft procedures, complex aircraft systems, advanced aerodynamics principles, airplane performance limitations, federal aviation regulations, stall/spin awareness, aeronautical charts and publications, radio aids to visual flight rules (VFR) navigation, meteorology and weather data services, national airspace systems, radio communications, air traffic control, aeromedical factors, commercial operations, passenger and freight loading, night maneuvers, and ground operations.

AV 3001L Commercial Pilot Flight 1 1 sem. hr.

AV 3002L Commercial Pilot Flight 2 0 sem. hrs.

AV 3003L Commercial Pilot Flight 3 1 sem. hr.

AV 310 Comm Pilot Add Class Ground 3 sem. hrs.

For the student adding an additional class rating to their Commercial Pilot Certificate. This course covers the theory of flight and the significant aerodynamic differences between single engine and multi engine airplane flight. Also includes system operation of constant speed propellers, multi-tank and pump fuel systems, dual electrical systems, turbochargers, and ice control systems. It discusses multi engine weight and balance and use of performance charts and prepares students for the oral exam portion of the FAA class rating practical test and airplane pilot knowledge test.

AV 310L Comm. Pilot Add. Class Flight 1 sem. hr.

Provides the student with the skill and aeronautical experience necessary to meet the requirements for an additional class rating to their Commercial Pilot Certificate. This course stresses normal and emergency flight procedures and skills demonstrated and practiced in all phases of flight to include single engine operation of a class rating in varying flight environments and situations. It discusses complex systems operation as well as instrument flight procedures and prepares the student for the required FAA class rating practical test.

AV 350 Advanced Aerodynamics 3 sem. hrs.

Provides the student with an understanding of the fundamentals of atmospheric and airspeed measurement in relationship to aircraft performance, design characteristics of airfoils and aerodynamic forces, the production and measurement of lift and drag forces and how they affect performance, jet aircraft basic and applied performance in addition to propeller driven aircraft performance. The course also examines the differences between slow and high-speed flight aerodynamics and takes an in-depth look at takeoff, landing, and maneuvering aircraft performance. At the conclusion, students will take the knowledge gained in the course and apply it to a small aircraft design project, which will require an understanding of all the course's subject material.

AV 351 Advanced Aircraft Systems 3 sem. hrs.

Provides the student with an understanding of the basic theory and principles of electricity and to apply that understanding to aircraft electrical systems from a pilot's perspective. The course examines aircraft hydraulic and pneumatic systems related to various sizes of light aircraft, aircraft fuel and propeller systems used on aircraft varying in size up to light turboprop twins, and numerous aircraft auxiliary systems and their application and use.

AV 352 Adv. Aircraft Familiarization 3 sem. hrs.

Provides the student with a comprehensive overview of aircraft recognition and generally depends on learning the external appearance of the aircraft, both friendly and hostile, that are most likely to be encountered. The student will be able to identify the different components of an aircraft and helicopters. Distinguish amongst the different types of aircraft. Identify single engine, multi engine, business jets, and commercial proper aircraft. Learn about the various types of military, historical, and helicopter aircraft. Course covers air space and ATC procedures and how they relate to aircraft identification. Identify the special performance aircraft in the aerobatic industry. **PREREQUISITE:** None

AV 353 Aviation Weather 3 sem. hrs.

Provides the student with the fundamentals of thermodynamic, heat and mass transfer, fluid mechanic and molecular interaction laws of the air mixture and how they affect pressure, temperature, density and other physical parameters of the atmosphere. This course provides an understanding of the fundamental processes in earth's atmosphere, heat transport by radiation and convection, and associated global and local weather phenomena. It also provides the students with an understanding of the technical details and the components of effective national weather prediction, how the current and forecast weather information is disseminated to the flying community. Students will learn how to use the above information and understand its impact on flight operations and how to recognize and make sound decisions regarding the weather hazards.

AV 354 Crew Resource Management 3 sem. hrs.

Provides the student with an in-depth study of the common principles of aviation crew resource management (CRM), human factors as utilized by air transport flight crews, introduction into aspects of aviation safety/safety programs and operational risk management. This course also will investigate and simulate numerous real-world scenarios dealt with by aircrews.

AV 355 Federal Aviation Regulations 3 sem. hrs.

Provides the student with the understanding of the rules designed to promote safe aviation and protect pilots, passengers, and the public from unnecessary risk with the intention of protecting the national security of the United States. Students will examine basic flight information and air traffic control (ATC) procedures. PREREQUISITE: None

AV 400 Cert. Flight Instructor Ground 3 sem. hrs.

Provides the student with the knowledge necessary to meet the requirements of the FAA Certificated Flight Instructor Certificate (CFI) with an airplane category rating. This certification allows you to give instruction to private and commercial student pilots as well as the ability to perform biennial flight reviews. PREREQUISITES: AV 100/100L, AV 300 series. COREQUISITES: AV 400L

AV 400L Cert. Flight Instructor Flight 1 sem. hr.

Provides the student with the skill and aeronautical experience necessary to meet the requirements for the FAA Certificated Flight Instructor Certificate (CFI). PREREQUISITES: AV 100/100L, AV 300 series. COREQUISITES: AV 400, AV 450.

AV 410 Cert. Flight Instrument Instructor 3 sem. hrs.

Provides the student with the knowledge necessary to meet the requirements of the FAA Certificated Flight Instructor Instrument Certificate (CFII) with an airplane category rating. This certification allows you to give instruction to Instrument-rated student pilots as well as the ability to perform biennial flight reviews. PREREQUISITES: AV 100/100L, AV 200 series, AV 300 series. COREQUISITES: AV 410L, AV 450

AV 410L Cert. Flight Instrument Flight 1 sem. hr.

Provides the student with the skill and aeronautical experience necessary to meet the requirements for the FAA Certificated Flight Instructor Instrument Certificate (CFII). PREREQUISITES: AV 100/100L, AV 200 series, AV 300 series. COREQUISITES: AV 410, AV 450

AV 420 Cert. Multi Engine Instructor 3 sem. hrs.

Provides the student with the knowledge necessary to meet the requirements of the FAA Certificated Multi Engine Flight Instructor Certificate (MEI) with an airplane category rating. This certification allows you to give instruction to multi engine student pilots as well as the ability to perform biennial flight reviews. PREREQUISITES: AV 100/100L, AV 300 series. COREQUISITES: AV 420L, AV 450

AV 420L Cert. Multi Engine Flight 1 sem. hr.

Provides the student with the skill and aeronautical experience necessary to meet the requirements for the FAA Certificated Multi Engine Flight Instructor Certificate (MEI). PREREQUISITES: AV 100/100L, AV 300 series. COREQUISITES: AV 420L, AV 450

AV 450 Fundamentals of Instruction 3 sem. hrs.

To gain an understanding of the individual's learning process, identify the barriers of learning; understand human behavior and methods of effective communication, learn teaching methods, and gain the ability to effectively critique and evaluate.

AV 455 Jet Engines 3 sem. hrs.

Jet Engines is a comprehensive college course designed to provide students with a deep understanding of the principles, design, and operation of jet propulsion systems. This course explores the fascinating world of jet engines, which power modern aircraft and play a crucial role in aviation and aerospace industries. Through a combination of theoretical study and practical applications, students will delve into the fundamental concepts and advanced theories underlying jet engine technology. They will examine the key components and systems that make up a jet engine, including compressors, combustion chambers, turbines, and exhaust systems. Furthermore, the course will explore various engine configurations, such as turbojets, turbofans, and turboprops, along with their respective advantages and applications.

AV 456 Commercial Piloting 3 sem. hrs.

Professional Commercial Piloting is an advanced-level course designed to equip aspiring pilots with the knowledge, skills, and expertise required to pursue a successful career in commercial aviation. This course offers a comprehensive exploration of the principles, techniques, regulations, and industry best practices associated with commercial piloting. Throughout the duration of the course, students will delve into various aspects of commercial aviation, including flight operations, aircraft systems, navigation, weather analysis, crew resource management, and regulatory frameworks. The course combines theoretical instruction with practical training to foster a well-rounded understanding of the challenges and responsibilities associated with professional commercial piloting.