AVIATION (AVN)

AVN 105. UAS Safety and Regulations. (3 Credits)
This course provides an overview of small Unmanned Aircraft Systems (sUAS). Topics include the history of UAS, regulations, remote sensors, imagery equipment, industry and societal implications, career outlooks, ethical considerations, and the basic components required to operate an UAS. This course will prepare students for real-world safe operation of sUAS, and will provide basic understanding of the regulations in preparation for small Unmanned Aircraft Systems FAA 107 certification test. [CFR Part 107 are the Federal Aviation Administration regulations for the certification and operation of small Unmanned Aircraft Systems]

View Course Learning Outcomes

1. {}

AVN 107. Introduction to Unmanned Aircraft Systems. (3 Credits)
(3) A. (Formerly AVN 170) This course provides an introduction to Unmanned Aircraft Systems (UAS). A history of UAS, typical applications and an overview of regulations, airframe and powerplant systems, sensors, ground control stations, airspace, weather, and other foundational skills needed to safely operate UAS in the U.S. airspace systems will be covered.

View Course Learning Outcomes

1. {}

AVN 150. Introduction to Aviation. (3 Credits)
A. An introductory course specifically designed for students to obtain a broad understanding of the aviation world including varying aspects of space exploration. Includes a study of aviation history and the general aviation environment.

View Course Learning Outcomes

1. {}

AVN 161. Private Pilot- Airplane: Ground (Part 61). (4 Credits)
A. Prerequisite: MAT 105 or higher with a minimum grade of "C", a minimum score of 22 on the mathematics portion of the ACT, a minimum score of 510 on the mathematics portion of the SAT, or a passing score on an algebra placement test. . Provides aeronautical knowledge and 5 hours flight simulation necessary to prepare student pilots to successfully complete FAA Private Pilot-Airplane written examination.

View Course Learning Outcomes

1. {}

AVN 161A. Private Pilot- Airplane (Part 61): Flight I. (1 Credit)
A. Prerequisite or Corequisite: AVN 161 with “C” grade or better and overall 2.0 GPA. Students receive dual and/or initial solo flight instruction as part of the FAA private pilot SEL certification using FAA part 61 Rules.

View Course Learning Outcomes

1. {}

AVN 162A. Private Pilot- Airplane (Part 61): Flight II. (1 Credit)
Prerequisite: Dept. approval (i.e student must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Students receive remaining flight hours as part of the curriculum leading to FAA private pilot SEL certification using FAA part 61 rules.

View Course Learning Outcomes

1. {}

AVN 170. Introduction to Unmanned Aircraft Systems. (3 Credits)
(3) A. This course provides an introduction to Unmanned Aircraft Systems (UAS). A history of UAS, typical applications and an overview of regulations, airframe and powerplant systems, sensors, ground control stations, airspace, weather, and other foundational skills needed to safely operate UAS in the U.S. airspace systems will be covered.

View Course Learning Outcomes

1. {}

AVN 192. Private Pilot- SEL: Ground. (4 Credits)
A. Provides aeronautical knowledge and 5 hours flight simulation necessary to prepare student pilots to successfully complete FAA Private Pilot written examination.

View Course Learning Outcomes

1. {}

AVN 192A. Private Pilot-SEL: Flight I. (1 Credit)
A. Prerequisite or corequisite: AVN 192 with "C" or better and overall 2.0 GPA. Students receive solo and/or dual flight hour instruction as part of the private pilot SEL certification using FAA-approved Part 141 flight training syllabus (Lab).

View Course Learning Outcomes

1. {}

AVN 193A. Private Pilot- SEL: Flight II. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student will receive remaining flight hours leading to FAA private pilot SEL certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 194A. Private Pilot: Flight. (1 Credit)
A. Prerequisite or Corequisite: AVN 192 with a grade of ¿C¿ or better, and an overall GPA of 2.0. This course consists of the dual and solo flight hours and experiences required for the private pilot certification with the Federal Aviation Administration.

View Course Learning Outcomes

1. {}

AVN 195. Pvt Pilot-Heli:Grnd(R-22/R-44). (4 Credits)
A. Prerequisite: Math ACT of 22 or higher or place in math placement test at Math 098 or higher with “C” grade or higher. Provides aeronautical knowledge and 5 hours flight simulation necessary to prepare student pilots to successfully complete FAA Private Pilot-Helicopter written examination.

View Course Learning Outcomes

1. {}

AVN 195A. Pvt Pilot-Heli: Flight I(R-22). (1 Credit)
A. Prerequisite or Co-requisite: AVN 195 with “B” grade or better and overall 2.0 GPA. First Robinson 22 Helicopter flight lab for pilots weighing less than 185 pounds leading to FAA private pilot helicopter certification using FAA-approved Part 141 flight training syllabus (Lab).

View Course Learning Outcomes

1. {}

AVN 196A. Pvt Plt-Heli:Flight II(R-22). (1 Credit)
(1) A. Prerequisite: AVN 195A with “S” grade and overall 2.0 GPA. Second Robinson 22 Helicopter flight lab for pilots weighing less than 185 pounds leading to FAA private pilot helicopter certification using FAA-approved Part 141 flight training syllabus (Lab).

View Course Learning Outcomes

1. {}

AVN 197A. Pvt Plt-Heli:Flight III(R-22). (1 Credit)
(1) A. Prerequisite: AVN 196A with “S” grade and overall 2.0 GPA. Third Robinson 22 Helicopter flight lab for pilots weighing less than 185 pounds leading to FAA private pilot helicopter certification using FAA-approved Part 141 flight training syllabus (Lab).

View Course Learning Outcomes

1. {}

AVN 198A. Pvt Plt-Heli:Flight I(R-44). (1 Credit)
(1) A. Prerequisite; corequisite: AVN 195 with “B” grade or better and overall 2.0 GPA. First Robinson 44 Helicopter flight lab for pilots weighing more than 185 pounds leading to FAA private pilot helicopter certification using FAA-approved Part 141 flight training syllabus (Lab).

View Course Learning Outcomes

1. {}

AVN 199A. Pvt Plt-Heli:Flight II(R-44). (1 Credit)
(1) A. Prerequisite: AVN 198A with “S” grade and overall 2.0 GPA. Second Robinson 44 Helicopter flight lab for pilots weighing more than 185 pounds leading to FAA private pilot helicopter certification using FAA-approved Part 141 flight training syllabus (Lab).

View Course Learning Outcomes

1. {}

AVN 200A. Pvt Plt-Heli:Flight III(R-44). (1 Credit)
(1) A. Prerequisite: AVN 199A with “S” grade and overall 2.0 GPA. Third Robinson 44 Helicopter flight lab for pilots weighing more than 185 pounds leading to FAA private pilot helicopter certification using FAA-approved Part 141 flight training syllabus (Lab).

View Course Learning Outcomes

1. {}

AVN 205A. Inter Supervised Flight I. (1 Credit)
A. Prerequisites: departmental approval and an overall GPA of 2.0. This course is designed to permit students holding the private pilot license to acquire additional supervised flight time. This course includes approximately 24 flight hours.

View Course Learning Outcomes

1. {}

AVN 206A. Inter Supervised Flight II. (1 Credit)
A. Prerequisites: departmental approval and an overall GPA of 2.0. This course is designed to permit students holding the private pilot license to acquire additional supervised flight time. This course includes approximately 24 flight hours.

View Course Learning Outcomes

1. {}

AVN 220. Instrument Pilot: Ground. (4 Credits)
A. Prerequisites: AVN 161A or AVN 192A and an overall 2.0 GPA. Provides aeronautical knowledge necessary to prepare student pilots to successfully complete the FAA Instrument Pilot written examination. 3 Lec/2 Lab.

View Course Learning Outcomes

1. {}

AVN 220A. Instrument Pilot: Flight. (1 Credit)
A. Prerequisites: departmental approval and an overall GPA of 2.0. A course designed to permit the student to gain instrument flight training.

View Course Learning Outcomes

1. {}

AVN 221A. Instrument Pilot: Flight I. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs.). Students receive flight and simulator hours leading to the FAA instrument pilot certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 222A. Instrument Pilot: Flight II. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Students receive remaining flight hours leading to the FAA instrument pilot certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 225. Instrument Pilot-Heli: Ground. (4 Credits)
A. Prerequisite: AVN 197A or 200A with “S” grade and overall 2.0 GPA. Provides aeronautical knowledge and 20 hours flight simulation necessary to prepare student pilots to successfully complete the FAA Instrument Helicopter Pilot written examination. 3 Lec/2 Lab.

View Course Learning Outcomes

1. {}

AVN 225A. Instrmnt Pilot: Heli Flight I. (1 Credit)
(1) A. Prerequisite or corequisite: AVN 225 with “B” grade or better, prerequisite 197A or AVN 200A with “S” grade, and overall 2.0 GPA. First Robinson R-44 flight lab leading to the FAA instrument helicopter pilot certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 226A. Instrmnt Pilot: Heli Flight II. (1 Credit)
(1) A. Prerequisite: AVN 225A with “S” grade, and overall 2.0 GPA. Second Robinson R-44 helicopter flight lab leading to the FAA instrument helicopter pilot certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 229A. Advanced Supervised Flight I. (1 Credit)
A. Prerequisites: departmental approval and an overall GPA of 2.0. This course is designed to provide students flight training and experience for FAA Commercial Pilot License.

View Course Learning Outcomes

1. {}

AVN 230A. Advanced Supervised Flight II. (1 Credit)
A. Prerequisites: departmental approval and an overall GPA of 2.0. This course is designed to provide students flight training and experience for FAA Commercial Pilot License.

View Course Learning Outcomes

1. {}

AVN 231A. Instrument Pilot- MEL: Flight I. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student receives MEL flight hours leading to the FAA instrument pilot certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 232A. Instrument Pilot- MEL: Flight II. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student receives remaining MEL flight hours leading to the FAA instrument pilot certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 250. Air Transportation. (3 Credits)
A. Prerequisite AVN 150. A survey of the historical development of the air transportation system covering facilities, impact of regulations, problems encountered, and future requirements. Formerly AVN 350.

View Course Learning Outcomes

1. {}

AVN 280. Glass Cockpit Technology. (1 Credit)
A. Prerequisite: AVN 220. Course provides instruction in operation of the Garmin G1000 glass cockpit to prepare students for operation of a G1000-equipped airplane in the Commercial Pilot Syllabus. Course includes 3 hours in a Garmin G1000 training device.

View Course Learning Outcomes

1. {}

AVN 290. UAS Flight Operations. (3 Credits)
This course covers the techniques and best practices required to safely and successfully utilize and operate drones for commercial purposes. Every aspect of flight operation is covered, from equipment, preflight planning and legal compliance to operational procedures, flight training, and data collection. Students work through the entire mission cycle, starting with legal compliance, planning, and then pre and post flight operations. Students will gain hands-on experience using the drone flight simulators in the Drone Lab. In-class simulation training is to prepare them for an outdoor real flight experience.

View Course Learning Outcomes

1. {}

AVN 300. Commercial Pilot: Ground. (2 Credits)
A. Prerequisites: AVN 221A. Provides aeronautical knowledge to prepare student pilots to successfully complete FAA Commercial Pilot written examination.

View Course Learning Outcomes

1. {}

AVN 300A. Commercial Pilot: Flight. (1 Credit)
A. Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). The course consists of all or part of the dual and solo flight hours required for FAA commercial pilot certification.

View Course Learning Outcomes

1. {}

AVN 301A. Commercial Pilot- SEL: Flight I. (2 Credits)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student will receive 32 dual and solo flight hours as part of the curriculum leading to the FAA commercial pilot SEL certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 302A. Commercial Pilot- SEL: Flight II. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student will receive additional dual and solo flight hours as part of the FAA commercial pilot SEL certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 303A. Commercial Pilot- SEL: Flight III. (1 Credit)
A. Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs.) Student will fly additional dual and solo flight hours as part of the FAA commercial pilot SEL certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 304A. Commercial Pilot- SEL: Flight IV. (2 Credits)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student will fly remaining dual and solo hours flight hours as part of the curriculum leading to the FAA commercial pilot SEL certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 305. Multi- Engine Pilot (MEL): Ground. (1 Credit)
A. Prerequisite: AVN 301A. Provides multi-engine aeronautical knowledge to facilitate successful completion of multi-engine practical examination.

View Course Learning Outcomes

1. {}

AVN 305A. Multi- Engine: Flight. (1 Credit)
A. Prerequisite: AVN 304A. Student will complete the multi-engine land (MEL) flight training required to earn the FAA (MEL) pilot certification.

View Course Learning Outcomes

1. {}

AVN 310. UAS Ground/Flight Operations. (3 Credits)
This course instructs the student in the mission planning, preflight, ground control, mission execution, and data analysis of UAS specific missions such as, Agriculture, Power/Wind Turbine/Railroad/Pipeline Inspections, Infrastructure Security, and other mission types as required.

View Course Learning Outcomes

1. {}

AVN 310A. Flight Training Techniques I. (1 Credit)
A. Prerequisites: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Flight training to prepare students for FAA examinations.

View Course Learning Outcomes

1. {}

AVN 312. UAS Commercial Operations. (3 Credits)
This course instructs the student in the mission planning, preflight, ground control, mission execution, and data analysis of UAS specific missions such as, Search & Rescue, Geosciences, Environmental, Anti-Poaching, Homeland Security, Videography, Construction, and Surveying.

View Course Learning Outcomes

1. {}

AVN 315. Aviation Safety Programs. (3 Credits)
I, II. A. Prerequisite: AVN 150. A presentation of factors, procedures, and aircraft accident investigation case studies relating to aviation safety, including risk management assessment, hazard identification analysis, safety programs-development--called Safety Management Systems (SMS) by the Federal Aviation Administration, and evaluation of outcomes.

View Course Learning Outcomes

1. {}

AVN 320. Flight Training Analysis II. (2 Credits)
A. Prerequisite: appropriate flight credentials. A study of aeronautical information and instructional background necessary for becoming instrument flight instructors. Included in the course is teaching methodology, instrument interpretations, and instrument flight procedures.

View Course Learning Outcomes

1. {}

AVN 320A. Flight Training Techniques II. (1 Credit)
A. Prerequisites: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Flight training to prepare students for FAA examinations.

View Course Learning Outcomes

1. {}

AVN 325. Aircraft Systems. (3 Credits)
I,II. Prerequisite AVN 150. A study of electrical, mechanical and hydraulic systems, design and performance standards, capabilities and limitations, and conformance to FAA specifications.

View Course Learning Outcomes

1. {}

AVN 329. Aviation Human Factors. (3 Credits)
A Prerequisites: AVN 315. ENG 102 or 102R, 105(B), or HON 102. A study of human factors that affect and influence behavior, with application to aviation safety and its connection to all disciplines within the aviation industry.

View Course Learning Outcomes

1. {}

AVN 329W. Aviation Human Factors. (3 Credits)
(3) A Prerequisites: AVN 315. ENG 102 or 102R, 105(B), or HON 102. A study of human factors that affect and influence behavior, with application to aviation safety and its connection to all disciplines within the aviation industry.

View Course Learning Outcomes

1. {}

AVN 330. Crew Resource Management. (3 Credits)
(3) A. Prerequisite: AVN 315 and 329W. A survey of crew resource management history and development in commercial aviation with emphasis on the myriad factors that influence crew interaction and performance.

View Course Learning Outcomes

1. {}

AVN 331A. Commercial Pilot- MEL: Flight I. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student receives initial dual flight hours as part of the FAA commercial pilot MEL certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 332A. Commercial Pilot- MEL: Flight II. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student CRM time building flight hours leading to the FAA commercial pilot MEL certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 333A. Commercial Pilot- MEL: Flight III. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student CRM time building flight hours leading to the FAA commercial pilot MEL certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 334A. Commercial Pilot- MEL: Flight IV. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student CRM time building flight hours and ten PDPIC dual flight hours leading to the FAA commercial pilot MEL certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 335. Weather Reporting/Analysis. (3 Credits)
I, II. Prerequisite: PHY 101 or higher. A comprehensive analysis of weather conditions and patterns as they apply to flight.

View Course Learning Outcomes

1. {}

AVN 340. Airport Management I: Operations and Security. (3 Credits)
I, II. Prerequisite AVN 150. An in-depth overview of airport operational issues, unmanned systems integration, air traffic control issues, safety, security, and planning.

View Course Learning Outcomes

1. {}

AVN 341. Airport Management II: Planning and Administration. (3 Credits)
(3). I, II. Prerequisite AVN 340. An in-depth overview of airport administration, finance, marketing, airfield design, planning, construction, air service development, and community relations.

View Course Learning Outcomes

1. {}

AVN 349. Cooperative Study: Aviation. (0.5-8 Credits)
A. Prerequisite: coordinator approval. Work under faculty and field supervisors in placements related to academic studies. One to eight hours credit per semester or summer. A minimum of 80 hours work required for each academic credit.

View Course Learning Outcomes

1. {}

AVN 350. Air Transportation. (3 Credits)
A. A survey of the historical development of the air transportation system covering facilities, impact of regulations, problems encountered, and future requirements.

View Course Learning Outcomes

1. {}

AVN 360. General Aviation Management. (3 Credits)
I, II. Prerequisite AVN 150. Designed to provide students with an understanding of an airport Fixed Base Operator's role and also of Aviation Service Businesses in the aviation industry, to include managerial and operational problems.

View Course Learning Outcomes

1. {}

AVN 370. Aviation Supervision and Leadership. (3 Credits)
I, II. Prerequisite: AVN 150. A study of effective supervisory and leadership techniques, with application to practical situations in the aviation industry.

View Course Learning Outcomes

1. {}

AVN 390. Aviation Decision Making. (3 Credits)
A. Prerequisite AVN 150. A study of decision theory and its application to aviation decision-making and problem solving.

View Course Learning Outcomes

1. {}

AVN 399. Aviation Prof Skills Seminar. (0 Credits)
I, II. Required of all Aviation students who have earned at least 60 hours. Credit (CR) will be given when students have attended and/or completed department-sponsored activities regarding professional skills and careers.

View Course Learning Outcomes

1. {}

AVN 400. Multi-Engine Pilot: Ground. (1 Credit)
A. Prerequisite: appropriate flight credentials. The course is designed to provide appropriate aeronautical knowledge about multi-engine aircraft to facilitate successful completion of the multi-engine flight component.

View Course Learning Outcomes

1. {}

AVN 400A. Multi-Engine Pilot: Flight. (1 Credit)
A. Prerequisites: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). A one hour laboratory course integrated with AVN 400 consisting of the dual and solo flight hours required for FAA certification.

View Course Learning Outcomes

1. {}

AVN 401. Airline Management. (3 Credits)
A. Prerequisite: AVN 250 or AVN 350 and junior standing (at least 60 hours). Acquaint student with the development, administrative and operational factors peculiar to FAR Part 121 Airline Operations. Emphasis is placed on proper market analysis, financial matters, the company plan, aircraft selection, aircraft acquisition, route structure, timetable and pertinent regulatory requirements.

View Course Learning Outcomes

1. {}

AVN 402. Corporate and Business Aviation. (3 Credits)
A. Prerequisite AVN 250 or 350 and junior standing (at least 60 hours). The study of the operation of a corporate flight department. Course includes the value of management mobility, aircraft and equipment evaluation, maintenance, flight operations, administration and fiscal considerations.

View Course Learning Outcomes

1. {}

AVN 410. Air Traffic Control. (3 Credits)
I, II. Prerequisite AVN 250 or 350 and junior standing (at least 60 hours). A study of the national air traffic control system with emphasis on basic air traffic control procedures; the role of centers, approach control, towers, and flight service centers; communications; navigation procedures, radar operations, facilities.

View Course Learning Outcomes

1. {}

AVN 412. Counter UAS Operations. (3 Credits)
Course is designed to educate and explore the emerging threat of unmanned aircraft systems to the nation's airspace and infrastructure. This course will be divided into four sections (overview, detect, identify and defeat), to cover all current and future lines of effort in a unified approach to counter UAS.

View Course Learning Outcomes

1. {}

AVN 415. Instructor Pilot- SEL: Ground. (3 Credits)
A. Prerequisite: AVN 161, AVN 220, and AVN 300 with "C" grade or better and overall 2.0 GPA. Prepares student pilots for the FAA Certified Flight Instructor (CFI) & Fundamentals of Instruction (FOI) written exams.

View Course Learning Outcomes

1. {}

AVN 415A. Instructor Pilot- SEL: Flight. (1 Credit)
A. PrerequIsite: AVN 304A with "S" grade. Prerequisite or corequisite: AVN 415 with "C" or higher, and overall 2.0 GPA. Fifteen dual flight hours and 5 hours flight simulation leading to the FAA instructor pilot (SEL) certification using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 416A. Instructor and Commercial Pilot- SEL: Flight. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student will receive dual flight hours and simulation hours leading to the FAA Instructor Pilot (IP) SEL and Commercial Pilot-SEL certifications using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 420. Flight Training Analysis III. (2 Credits)
A. Prerequisite: appropriate flight credentials. Principles and methodology of teaching multi-engine flight and includes ground instruction required by the FAA in preparation for a flight instructor multi-engine rating.

View Course Learning Outcomes

1. {}

AVN 420A. Flight Training Techniques III. (1 Credit)
A. Prerequisites: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Flight preparation for FAA CFI Multi-Engine flight test.

View Course Learning Outcomes

1. {}

AVN 421. Instrument and Multi-Engine IP. Ground. (2 Credits)
A. Prerequisite: AVN 415 with "C" grade or better and overall 2.0 GPA or an Instructor Pilot-SEL rating. Provides study of aeronautical information for becoming instrument and multi-engine flight instructor, and preparation for FAA Instrument Instructor written.

View Course Learning Outcomes

1. {}

AVN 421A. Instrument and Multi-Engine IP. Flight. (1 Credit)
A. Prerequisite Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student will receive required flight hours and simulation hours leading to the FAA Instrument Instructor Pilot (IP) SEL rating using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 422A. Commercial and Instructor Pilot-MEL: Flight. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student will receive required dual flight hours and simulation hours leading to the FAA commercial multi-engine add-on and multi-engine instructor ratings using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 423A. Instructor Pilot--Multi-Engine: Flight. (1 Credit)
A. Prerequisite: Dept. approval (i.e. students must make satisfactory flight progress, as determined by the Aviation Coordinator, before being allowed to register into subsequent AVN flight labs). Student will receive additional dual flight hours and simulation hours leading to the FAA Multi-Engine instructor rating using FAA-approved Part 141 flight training syllabus.

View Course Learning Outcomes

1. {}

AVN 425. Applied Aerodynamics. (3 Credits)
A. Prerequisite: PHY 101. Applied theories of flight and flight factors, including a study of the principles of performance, stability and control, and operational data.

View Course Learning Outcomes

1. {}

AVN 433. Photography and Videography with UAS. (3 Credits)
(3) A. Prerequisite: AVN 107 or Departmental approval. Overview of Unmanned Aircraft Systems (UAS), drones, in digital photography/videography. Develops skills in photo/video composition, mission planning, and photo/video editing using Lightroom and adobe creative suite software.

View Course Learning Outcomes

1. {}

AVN 435. Turbine Aircraft Systems. (3 Credits)
A. Prerequisite: AVN 325 with a "C" or better or instructor approval. A study of the functioning theory and integral components of gas turbine (jet) engines. Additionally, provides a study of electrical, mechanical and hydraulic systems as they relate to turbine engine aircraft.

View Course Learning Outcomes

1. {}

AVN 441. Surveying with UAS. (3 Credits)
(3) A. Prerequisite: AVN 107 or Departmental approval. Overview of Unmanned Aircraft Systems (UAS), drones, land surveying. Develops skills in mission planning and processing of data collected with a UAS. Students produce survey suitable for land use decisions.

View Course Learning Outcomes

1. {}

AVN 442. UAS and Public Safety. (3 Credits)
(3) A. Prerequisite: AVN 107 or Departmental approval. Overview of Unmanned Aircraft Systems (UAS), drones, in public safety, including Policing, Fire Services, Search and Rescue, and Emergency Management. Examines legal and ethical issues Develops skills in tactical use, mission planning, and data processing.

View Course Learning Outcomes

1. {}

AVN 444. Modeling and Mapping with UAS. (3 Credits)
(3) A. Prerequisite: AVN 107 or Departmental approval. Overview of Unmanned Aircraft Systems (UAS), drones, in 3D modeling and mapping. Develops skills 3D model & map creation, mission planning, and software transformation of UAS/drone data into 3D models and georeferenced maps.

View Course Learning Outcomes

1. {}

AVN 445. UAS in Construction and Engineering. (3 Credits)
(3) A. Prerequisite: AVN 107 or Departmental approval. Overview of Unmanned Aircraft Systems (UAS), drones, in construction and engineering. Develops skills in mission planning and transforming UAS data used in land use planning, and different types of construction (horizontal and vertical), inspections,

View Course Learning Outcomes

1. {}

AVN 446. UAS in Agriculture and Wildlife Management. (3 Credits)
f(3) A. Prerequisite: AVN 107 or Departmental approval. Overview of Unmanned Aircraft Systems (UAS), drones, in agriculture and wildlife management. Develops skills in mission planning, crop and wildlife monitoring, and transforming data products suitable for clients in agriculture and wildlife management.

View Course Learning Outcomes

1. {}

AVN 460. Aviation Law. (3 Credits)
I, II. Prerequisite: AVN 250 or 350 and junior standing (at least 60 hours). A study of civil law as it pertains to aviation and includes the historic development of United States and international aviation law while surveying governmental responsibility for aviation accidents.

View Course Learning Outcomes

1. {}

AVN 467. Comprehensive Exam for BS in Aviation. (0 Credits)
(0) A. Prerequisite: Consent of Advisor. Registration in AVN 467 is required of all undergraduate B.S. (Aviation) students for the term in which they wish to take their comprehensive examination, including the exit exam and advisor approved certification or license.

View Course Learning Outcomes

1. {}

AVN 470. National Air Space System. (3 Credits)
A. An overview of the National Air Space System with emphasis on problems of implementation, safety considerations, and social/economic impact.

View Course Learning Outcomes

1. {}

AVN 480. Glass Flight Deck Technologies. (1 Credit)
(1) A. Prerequisite: AVN 222A or AVN 232A and AVN 330. Provides an integrated approach to the theory, technology, and operations of "Glass" flight deck technologies to prepare student pilots to successfully operate "glass" flight deck aircraft. Course includes 5 hours in "Glass" capable AATD flight simulator.

View Course Learning Outcomes

1. {}

AVN 490. Airline Flight Operations. (3 Credits)
A. Prerequisite(s): AVN 330, 435, and 480. Provides an academic and AATD flight simulation-based transition from the general aviation reciprocal engine flight operations at 130 KIAS to airline turbojet flight operations at 350 KIAS or faster. Actual airline flight operations, to include flight deck flows and checklist usage will be introduced. Student pilots will fly 10 hours of AATD jet transition flight simulation as a 2 person crew. 2 Lec/2 lab

View Course Learning Outcomes

1. {}

AVN 495. Internship. (1-3 Credits)
Prerequisite: departmental approval. Students will work under departmental supervision in a private or public agency engaged in aviation activities.

View Course Learning Outcomes

1. {}

AVN 498. Independent Study. (1-3 Credits)
A. Prerequisite: AVN major with senior standing. Student must have the independent study proposal form approved by faculty supervisor and program coordinator prior to enrollment. May be retaken to a maximum of six hours.

View Course Learning Outcomes

1. {}

AVN 499. Aviation Careers Seminar. (0 Credits)
II. Prerequisite: AVN 399 or BTS 300. Required of all Aviation students who have earned at least 90 hours. Credit (CR) will be given when students have attended the annual Aviation Career Day and completed all related assignments.

View Course Learning Outcomes

1. {}