

Educational (Student Learning) Objectives for AVN Curriculum

Each course has four primary student learning objectives. These are things the students should know or be able to do upon completion of each course. In addition to providing the student with information about a specific course, the learning objectives also provide a map for the entire curriculum. The primary learning objectives are published in the Institute's student handbook and in the course syllabus, where the instructor will provide additional, more specific, learning objectives for units within the course. Each learning objective below is annotated parenthetically with the artifact(s) that will be used in the assessment process.

Course # - Course Name

AVN 1000 – Introduction to Aviation

A student successfully completing this course will be able to:

- Explain basic terms and concepts in air transportation, including commercial, military, and general aviation; air traffic control; aviation agencies and organizations; the aerospace industry; the airport environment; professional and ethical responsibilities of an aviation professional; and aviation career options. (exams, course paper)
- Demonstrate basic knowledge of contemporary issues within the aviation and aerospace industries. (current events assignment)
- Use effectively basic techniques and technology necessary for professional practice (assignments and presentation)
- Demonstrate critical thinking skills and basic interpersonal skills (quizzes and exams)

AVN 1020 – Private Pilot Theory

A student successfully completing this course will be able to:

- Demonstrate a basic working knowledge of the FAA regulations governing pilot qualifications, aircraft condition, and aircraft operations. (examination, class exercises)
- Demonstrate a basic conceptual knowledge of aerodynamics, General Aviation aircraft systems, aircraft performance, and weight and balance. (examination, class exercises)
- Describe aircraft maneuvers such as takeoffs, landings, stalls, spins, ground reference maneuvers, unusual attitude recoveries and basic instrument flight maneuvers. (examination, class exercises)
- Describe basic weather theory, weather information sources, risk management, resource management, physiology, aeronautical decision making, collision avoidance, runway incursion avoidance, controlled flight into terrain, wake turbulence, Land and Hold Short Operations and emergency landing procedures. (examination, class exercises)

AVN 1040 - History of Aviation and Aerospace

A student successfully completing this course will be able to:

- Explain the historical evolution of aviation technology and infrastructure. (exam and research paper)
- Identify the key historical figures, events, and policy changes in aviation and aerospace. (quizzes and short essays)
- Describe how modes of transportation compete and complement one another as markets, technologies, and societies change. (exams)

- Critically evaluate historical accounts and conventional wisdom about the evolution of aviation and aerospace. (exam and research paper)

AVN 1160 – Aviation Safety

A student successfully completing this course will be able to:

- Identify issues relating to aviation safety as mandated by the Federal Aviation Administration (FAA), Environmental Protection Agency (EPA), and the Occupational Safety and Health Administration (OSHA). (exam, weekly short essays)
- Explain key elements of aeronautical decision-making and safety data analysis. (weekly essays, exam)
- Evaluate the nature of accidents and the role of the accident investigation process. (group exercises, weekly essays, exams)
- Describe how safety management systems (SMS) work to decrease airport and aircraft accidents. (exams, weekly reading essays, and course projects)

AVN 2020 – Airline Operations

A student successfully completing this course will be able to:

- Describe major legislation and changes in technology affecting the growth and development of commercial air service in the US including the relevance of current federal regulations and other guidance relating to airline operations. [exam, current events assignments]
- Explain roles, functional components, and competitive strategies of major US airlines, regional carriers and cargo operators. [exam, course projects]
- Identify roles and functions of airline ground, flight, maintenance, and management departments. [exam, course projects]
- Evaluate the impact of irregular operations (IrOps) on the national air transportation system. [exam]

AVN 2050 – Airport Administration

A student successfully completing this course will be able to:

- Describe major historical legislation & changes in technology affecting historical airport development and the relevance of current federal regulations and other guidance relating to airport operation and development. [exam, current events assignments]
- Explain the various roles of airports from local, regional, state and federal perspectives including airport governance and management. [exam]
- Identify and discuss characteristics and dimensions of specific facilities on the airfield, in the terminal, and on the landside. [exam, course projects]
- Evaluate various financial and organizational strategies employed by airport management and the economic, social, and political impacts of airport development on the community. [exam, course projects]

AVN 2750 – Aviation Meteorology

A student successfully completing this course will be able to:

- Define the four basic meteorological elements composing the earth's atmosphere (examination)

- Explain how each element interacts with the other elements to produce the various weather phenomena affecting flight operations (examination)
- Explain how weather patterns are produced (examination)
- Describe and decode aviation meteorological products such as METARs, TAFs, etc. (examination, class exercise)

AVN 3000 – Corporate Aviation

A student successfully completing this course will be able to:

- Demonstrate an understanding of the history and development of business and corporate aviation. (exam)
- Describe the regulations that govern business and corporate aviation and the role of trade associations in the development of relevant policies. (group project)
- Analyze the use of business aircraft and the aircraft selection process used by companies and individuals. (group project)
- Critically compare corporate flight, fractional ownership, and charter operator options in terms of mobility, cost, reliability and other decision factors. (group project)

AVN 3040 – Human Factors

A student successfully completing this course will be able to:

- Demonstrate knowledge of human physiology and its importance to aviation. *[exam]*
- Describe behavioral science issues such as motivation, judgment, communication, and attitude as they relate to multi-crew flight operations. *[Paper and exam]*
- Analyze and describe the concepts and use of safety programs such as AQR and FOQA. *[exam]*
- Describe the concepts of threat and error management and crew resource management and their application. *[Paper and project]*

AVN 3090 – Airport Planning

A student successfully completing this course will be able to:

- Describe the federal NPIAS, system planning, and the airport master planning processes. *[exam]*
- Explain factors determining the number, orientation, and placement of runways, taxiways, gates, ramp areas, and terminal facilities including performance parameters of aircraft and how they affect airport design. *[exam, course projects]*
- Identify environmental issues specific to airports and evaluate strategies used to address such issues. *[exam]*
- Analyze measures of airport performance using a variety of benchmarking measurement methodologies. *[exam]*

AVN 3150 – Aviation Law

A student successfully completing this course will be able to:

- Demonstrate knowledge of American and International aviation law and regulations. (weekly essays, exam, case study and presentation)
- Describe the role of the federal, state, and local governments under the U.S. Constitution in formation and enforcement of aviation rules and regulations. (weekly essays, exam, case study and presentation)
- Evaluate how tort, liability, & negligence law affect aviation manufacturing and operations. (weekly essays, exam, case study and presentation)

- Explain the differences and significance of business contracts in personal liability and taxation. (weekly essays, exam)

AVN 3200 – Co-Op / AVN 4200 – Internship

A student successfully completing this course will be able to:

- Demonstrate the ability to communicate effectively and professionally with industry personnel. (interview and weekly meetings)
- Apply the knowledge and skills learned in the classroom to real world situations. (final report)
- Evaluate career opportunities and begin to articulate career objective and goals. (evaluation from internship provider)
- Demonstrate an appreciation for professional networking. (final report)

AVN 3600 – International Aviation

A student successfully completing this course will be able to:

- Describe the historical foundations for the global air transport system including the various conventions and agreements that govern international aviation. (exam)
- Explain the trend towards a more open and competitive global air transport market. (project)
- Compare the air transport systems of two or more nations. (project)
- Explain the evolution of the global air freight industry including the rise of the integrated cargo carriers. (exam)

AVN 3700 – Transportation Analysis

A student successfully completing this course will be able to:

- Explain the role of federal, state, and local government policy on transportation provision in national and international commerce. (weekly essays, exam)
- Identify and describe each transportation mode's market share and operational characteristics. (weekly essays, exam)
- Utilize economic and statistical tools to critically evaluate transportation operations. (class exercises, course project)
- Describe and evaluate various shipper management strategies and practices in provision of transportation services. (weekly essays, exam)

AVN 4050 – General Aviation Operations

A student successfully completing this course will be able to:

- Explain the structure of the typical fixed base operator (FBO) and the role this type of business plays in general aviation, including flight line operations. (group project)
- Identify the four functions of management. (exams)
- Identify and utilize available sources of information for demand forecasting in general aviation operations. (group project)
- Recognize the advantages and disadvantages of various business structures and practices. (exams and group project)

AVN 4100 – Aviation Marketing

A student successfully completing this course will be able to:

- Conduct a PESTE (political, economic, social, technological, and environmental) analysis of a public agency, private firm, or nonprofit organization in air transport. (final project)
- Evaluate the results of a marketing plan for an airline. (final project)

- Utilize the tools of market research to examine consumer behavior and evaluate customer service. (assignments)
- Relate and apply principles of marketing to the non-profit and for profit aviation sectors. (assignments and final project)

AVN 4080 – Airport Safety and Security

A student successfully completing this course will be able to:

- Describe the relationships between and responsibilities of federal, state, and local governments and law enforcement officials in provision of aviation safety and security. (weekly essays and exam)
- Explain formal safety and security management systems used in airport and airline safety and security. (weekly essays, exam, hazard and risk exercises, course project and presentation)
- Evaluate the use of various hazard identification and risk management tools in safety and security program management. (weekly essays, exam, course project and presentation)
- Compare differences in safety and security policies and requirements existing between General Aviation (GA) and Commercial Aviation airport and aircraft operations. (weekly essays, exam, and course project and presentation)

AVN 4990 – Air Transportation

A student successfully completing this course will be able to:

- Explain how formal time series and comparative evaluation techniques are used to study aviation. (class assignment, course project, PowerPoint presentation, poster board presentation)
- Demonstrate the ability to use economic and statistical tools in analysis of contemporary aviation practices (course project, PowerPoint presentation, poster board presentation)
- Evaluate regulatory and economic practices in aviation passenger and transportation provision (class assignment, class discussion, and course project)
- Perform unbiased analysis of a contemporary issue in aviation through use of time series or comparative analysis methodologies (course project, PowerPoint presentation, poster board presentation)

