AVIATION SCIENCE (ASCI)

ASCI 1010 - Professional Orientation
2 Credits
This course will provide an orientation to the University system, the teaching philosophy of the Department, and opportunities for professional development in specific career tracks such as professional pilot, system safety, and quality management. Opportunities such as internships, scholarships, research assistantships, and general networking and social events on campus, etc. will be discussed.

ASCI 1300 - Aviation Weather
3 Credits
This course will provide the fundamentals of meteorological theory with a specific application to aviation and flight. Appropriate weather services that are available to the pilot will be covered.

ASCI 1510 - The Air Transportation System
3 Credits
The course is designed for the non-pilot student seeking to learn more about the U.S. air transportation system. Topics include the regulatory and operational environments of the air transportation system, the aircraft, airlines and airports used in the air transportation system, and the future challenges faced by the various entities involved in the air transportation system. Offered in spring.

ASCI 1850 - Safety Management Systems
3 Credits
Safety Management Systems (SMS) is a standard throughout the worldwide aviation industry. SMS is recognized by the International Civil Aviation Organization (ICAO) as the next step in the evolution of safety in aviation. SMS is a standards based system for the management of safety. Safety Management Systems integrate risk management and safety assurance concepts into repeatable, measurable, proactive systems.

ASCI 2200 - Concepts in Aerodynamics
3 Credits
Aircraft types, theory of flight, aerodynamics of the airplane, aircraft performance, effects of atmospheric conditions on performance, theory of aircraft stability and control, effects of flight loads on aircraft structure.
Prerequisite(s): (MATH 1200 with a grade of C or higher, 1 Course from MATH 132-4999 with a grade of C or higher, or SLU Math Placement with a minimum score of 1400)

ASCI 2250 - Aviation and Airport Security
3 Credits
This course presents advanced security issues related to aviation including passenger screening, profiling, hijacking, bomb threats, and passenger disruptions. Covers historical incidents and studies a variety of responses to threats from various countries. The course discusses the role of the Department of Homeland Security and the Transportation Security Administration. The course covers the role of pilots and other flight crew in security including the Federal Flight Deck Officers Program. Includes a discussion of regulatory issues and laws established since the 9/11 attacks. Offered fall and spring.

ASCI 2750 - Accident Investigation
3 Credits
An introduction to aircraft accident investigation and its use as a tool in hazard identification, risk analysis and mishap prevention. Students will apply theory and practical skills developed in the classroom to an actual aircraft accident during the field work portion of the course.

ASCI 2910 - Co-op with Industry
1 Credit (Repeatable for credit)
A full-time supervised work experience with an agency, firm or organization that employs persons in this degree field. This course is used as an experiential learning session. Grading system is determined by department offering course.
Prerequisite(s): CORE 1500*; (CORE 1000 or UUC Ignite Seminar Waiver with a minimum score of S)

* Concurrent enrollment allowed.
Restrictions:
Students with a classification of Freshman may **not** enroll.

Attributes: UUC:Reflection-in-Action

ASCI 2930 - Special Topics in Aviation Science
1-3 Credits (Repeatable for credit)
Approval of the Department Chair required.

ASCI 2980 - Independent Study
1 or 3 Credits (Repeatable for credit)

ASCI 3010 - Jet Transport Systems I
3 Credits
This course includes an introduction to a typical turboprop airplane currently used in commercial aviation. The systems will be covered from a pilot's perspective. Normal and emergency operating procedures will be covered as presented by the aircraft flight manual.

ASCI 3020 - Jet Transport Systems II
3 Credits
This course includes an introduction to a typical jet aircraft currently used in commercial aviation. The systems will be covered from a pilot's perspective. Normal and emergency operating procedures will be covered as presented by the aircraft flight manual.

ASCI 3050 - Operations & Business Environment of Aviation
3 Credits
The course is used to guide the student into the variances of managing a corporate aviation department. Included are the business aspects of managing an aviation department including regulatory, standards and procedures, personnel, leadership, human resources, finance and customer relationship management. A common thread throughout the course is the maintaining of safety in all aspects of the organization.

ASCI 3070 - Flight Crew Fundamentals
2 Credits
This course serves as a bridge for students operating single-pilot, piston-powered aircraft to operating multi-pilot, turbine-powered aircraft.
Prerequisite(s): FSCI 2150; FSCI 2250
Restrictions:
Enrollment is limited to students with a major in Aeronautics.

ASCI 3100 - Air Carrier Operations
3 Credits
This course includes the study of the operations of a representative air carrier in commercial aviation. All aspects of the operation important to the flight crew will be covered, including environmental, physiological, regulatory, and performance factors.
Prerequisite(s): Minimum Earned Credits of 60

ASCI 3600 - Airport Management
3 Credits
This course is designed to acquaint the student with the basic concept of airport planning and management. A comprehensive survey of a typical community with an eye toward present and future business potential is made. This includes a study of the socioeconomic characteristics, and the political and governmental influences, followed by various stages and types of airport construction.

ASCI 3910 - Co-op with Industry
1 Credit (Repeatable for credit)
A full-time supervised work experience with an agency, firm or organization that employs persons in this degree field. This course is used as an experiential learning session. Grading system is determined by department offering course.
Prerequisite(s): ASCI 2910 with a grade of C or higher; (CORE 1000 or UUC Ignite Seminar Waiver with a minimum score of S); CORE 1500[*]

[*] Concurrent enrollment allowed.
Attributes: UUC:Reflection-in-Action

ASCI 3915 - Internship with Industry
1-3 Credits (Repeatable for credit)
NOTE: This course is to be used for students engaging in an internship for elective credit in their curriculum. A work experience with an agency, firm or organization that employs persons in this degree field. This experience may be full-time or part-time as required by the industry sponsor. This course is used as an experiential learning session. Grading system is determined by department.
Prerequisite(s): CORE 1500[*]; (CORE 1000 or UUC Ignite Seminar Waiver with a minimum score of S)

[*] Concurrent enrollment allowed.
Restrictions:
Enrollment limited to students with a classification of Junior or Senior.

Attributes: UUC:Reflection-in-Action

ASCI 3930 - Special Topics
3 Credits (Repeatable for credit)

ASCI 3980 - Independent Study
1-3 Credits (Repeatable for credit)

ASCI 4012 - Introduction to Flight Crew Operations
3 Credits
This course emphasizes effective management of technology and people in a modern flight deck through an understanding of aircraft systems, airline operating procedures, and aviation human factors under normal, extended duration, and emergency conditions. Line Oriented Flight Training (LOFT) contained in ASCI 4013 Introduction to Flight Crew Operations Laboratory is used to relate content from this course to actual line operations.
Prerequisite(s): FSCI 2650 with a grade of C or higher; FSCI 2150 with a grade of C or higher; Minimum Earned Credits of 90
Corequisite(s): ASCI 4013
Attributes: Special Approval Required

ASCI 4013 - Introduction to Flight Crew Operations Laboratory
1 Credit
This course emphasizes effective management of technology and people in a modern flight deck through an understanding of aircraft systems, airline operating procedures, and aviation human factors under normal, extended duration and emergency conditions. Line Oriented Flight Training (LOFT) is used to relate content from ASCI 4012 Introduction to Flight Crew Operations lecture.
Prerequisite(s): FSCI 2150 with a grade of C or higher; FSCI 2250 with a grade of C or higher; Minimum Earned Credits of 90
Corequisite(s): ASCI 4012
Attributes: Special Approval Required

ASCI 4022 - Advanced Flight Crew Operations
3 Credits
This course emphasizes effective management of technology and people in a modern flight deck through the application of advanced aircraft systems, air carrier operating procedures, and crew resource management principles to airline flight operations. Line Oriented Flight Training (LOFT) contained in ASCI 4023 Advanced Flight Crew Operations Laboratory is used to relate content from this course to real world airline line operations.
Prerequisite(s): ASCI 4012 with a grade of C or higher; Minimum Earned Credits of 90
Corequisite(s): ASCI 4023

ASCI 4023 - Advanced Flight Crew Operations Laboratory
1 Credit
This course emphasizes effective management of technology and people in a modern flight deck through the application of advanced aircraft systems, air carrier operating procedures and crew resource management principles to airline flight operations. Line Oriented Flight Training (LOFT) scenarios contained in this course are used relate content from the ASCI 4022 Advanced Flight Crew Operations course to real world airline line operations.
Prerequisite(s): ASCI 4012 with a grade of C or higher; Minimum Earned Credits of 90
Corequisite(s): ASCI 4022

ASCI 4050 - Human Factors
3 Credits
ASCI 4050 will introduce students to the fundamental principles of Human Factors as they apply to Aviation Physiology, Aviation Psychology, and Aviation Safety. The emphasis will be on improving safety, judgment, and decision-making strategies.
Prerequisite(s): Minimum Earned Credits of 45; PSY 1010; CORE 1500[*]

[*] Concurrent enrollment allowed.
Attributes: UUC:Self in Contemplation

ASCI 4250 - Professional Ethics and Standards
3 Credits
Exposes the participant to various moral and ethical dilemmas inherent to business and more specifically the aviation industry. Participants will identify ethical problems, understand and evaluate differing ethical perspectives, and formulate viable policy recommendations.
Prerequisite(s): (PHIL 1050, PHIL 1700, PHIL 1707, PHIL 1753, PHIL 1757, or CORE 1700)

ASCI 4350 - Team Resource Management
3 Credits
ASCI 4350 Team Resource Management will prepare students to build high performance teams in critical sectors such as flight, maintenance, safety, and quality. Concepts of team building and technology management under normal as well as emergency conditions will be discussed. Case studies will be used to analyze team performance in a variety of high-consequence environments. This course intends to provide each student with experience in collaborative inquiry (university core) (more shortly).
Prerequisite(s): Minimum Earned Credits of 90; (CORE 1000 or UUC Ignite Seminar Waiver with a minimum score of S); CORE 1500[*]

[*] Concurrent enrollment allowed.
Attributes: UUC:Collaborative Inquiry

ASCI 4450 - Aviation Law
3 Credits
Basic principles of law which impinge on the use of the air; history of air law; principles and rules governing use of air space by aircraft; multilateral conventions pertaining to the use of air space among nations; aviation security procedures; product liability.
Prerequisite(s): Minimum Earned Credits of 75

ASCI 4650 - Econ of Air Transportation
3 Credits
A detailed study of present and future air carrier operations including organization, operating costs and revenues, aircraft utilization and scheduled operations, equipment analysis, aircraft performance in relation to efficient and economic operation, passenger service and cargo operations as they are integrated with the overall economics of efficient air operation.
Prerequisite(s): ECON 1900

ASCI 4800 - International Aviation
3 Credits
This course provides in-depth examination of the history and development of the international regulatory environment governing the aviation industry. Participants will gain a knowledge of the international governing bodies and resulting regulations that impact aviation companies in the global marketplace.

ASCI 4900 - Senior Seminar
3 Credits
This seminar is the capstone experience for the B.S. in Aeronautics, Aviation Management concentration. The student will study various aspects of the aviation industry that relates to each one's particular interest area.
Prerequisite(s): Minimum Earned Credits of 90; CORE 1500[*]; (CORE 1000 or UUC Ignite Seminar Waiver with a minimum score of S); CORE 1900; CORE 1500; CORE 1200[*]; CORE 2500[*]; CORE 1000

[*] Concurrent enrollment allowed.
Attributes: UUC:Reflection-in-Action, UUC:Self in the World

ASCI 4910 - Co-op with Industry
1 Credit
A full-time supervised work experience with an agency, firm or organization that employs persons in this degree field. This course is used as an experiential learning session. Grading system is determined by department offering course. Offered every semester.
Prerequisite(s): ASCI 3910 with a grade of C or higher; CORE 1500[*]; (CORE 1000 or UUC Ignite Seminar Waiver with a minimum score of S)

[*] Concurrent enrollment allowed.
Attributes: UUC:Reflection-in-Action

ASCI 4915 - Internship with Industry
1-3 Credits (Repeatable for credit)
NOTE: This course is to be used for students engaging in an internship for required credit in their curriculum. A work experience with an agency, firm or organization that employs persons in this degree field. This experience may be full-time or part-time as required by the industry sponsor. This course is used as an experiential learning session. Grading system is determined by department.
Prerequisite(s): ASCI 3915 with a grade of C or higher; (CORE 1000 or UUC Ignite Seminar Waiver with a minimum score of S); CORE 1500[*]

[*] Concurrent enrollment allowed.
Attributes: UUC:Reflection-in-Action

ASCI 4930 - Special Topics
3 Credits (Repeatable for credit)

ASCI 4971 - Research Problems
1-3 Credits (Repeatable for credit)
No formal class session but weekly appointment with course advisor is required. This course requires the practical use of the methods of organizing theoretical and experimental research, formulation of problems, project planning, research proposal preparation, and submission of a final research report.
Restrictions:
Enrollment limited to students with a classification of Senior.

ASCI 4980 - Advanced Independent Study in Aviation Science
1-3 Credits (Repeatable for credit)

ASCI 5010 - Introduction to Aviation Research Methods
3 Credits
Provides the necessary strategies and tools for aviation managers to properly collect, examine, and interpret aviation operational and safety data. Special emphasis is placed on the application of statistical methods, risk management and quality assurance concepts.
Attributes: Aviation Elective (Graduate), Aviation Research (Graduate)

ASCI 5020 - Aviation Safety Data Analysis
3 Credits
Practical application and research of aviation and aerospace safety databases.
Attributes: Aviation Elective (Graduate), Aviation Research (Graduate)

ASCI 5030 - Aviation Security Management
3 Credits
The challenges of managing an aviation security program are addressed from the following perspectives: means, motives, and opportunities. Discussion topics include technical as well as behavioral science based approaches to detecting threats; the role of global political climate in influencing terrorism; and federal and international regulations as counter-terrorism measures.
Attributes: Aviation Elective (Graduate), Aviation Foundation (Graduate)

ASCI 5040 - Human Factors in Aviation Safety
3 Credits
This course will include elements of human factors theory applied to various aviation environments. Human factors theory will be reviewed and then applied to flight operations and maintenance issues. Emphasis will be placed on the management of safety programs toward a reduction of accidents caused by human error.
Attributes: Aviation Elective (Graduate), Aviation Foundation (Graduate)

ASCI 5150 - Aviation Incident and Accident Analysis
3 Credits
This course emphasizes the fundamental understanding of aircraft performance and technology, regulations governing aircraft operation, aircraft maintenance, and incident/accident investigation; incident/accident investigation techniques, and comprehensive solutions to minimize future occurrences of similar incidents r accident are also addressed.
Attributes: Aviation Elective (Graduate), Aviation Foundation (Graduate)

ASCI 5210 - Aviation Organization Theory and Management
3 Credits
Explores the various models of organizational structure and culture including the implications for organizational leadership, project management and employee motivation. Topics include contingency theory, systems theory, group dynamics, and change management.
Attributes: Aviation Elective (Graduate), Aviation Foundation (Graduate)

ASCI 5220 - Aviation Safety Programs
3 Credits
Explores the development and administration of safety management systems (SMS) and emergency response plans. Examination of accident related case studies are used to discuss the impact of organizational culture on safety management.
Attributes: Aviation Elective (Graduate), Aviation Foundation (Graduate)

ASCI 5230 - Prof Ethics and Standards
3 Credits
Exposes the participant to various moral and ethical dilemmas inherent to business and more specifically the aviation industry. Participants will identify ethical problems, understand and evaluate differing ethical perspectives, and formulate viable policy recommendations.
Attributes: Aviation Elective (Graduate), Aviation Foundation (Graduate)

ASCI 5460 - Qualitative Data Analysis
3 Credits
Qualitative Data Analysis will introduce the student to various methods of qualitative analysis. Students will be expected to identify various types of qualitative data, develop research approaches, identify the most appropriate data collection method, and interpret and report analysis findings.
Attributes: Aviation Elective (Graduate), Aviation Research (Graduate)

ASCI 5470 - Quantitative Data Analysis
3 Credits
Quantitative Analysis is an introduction to the observation and application of quantitative data analysis. Students who complete this course will be capable of conducting statistical test supporting theoretical application in the current literature. Additionally, students will be capable of interpreting the results of statistical analysis found in various publications.
Attributes: Aviation Elective (Graduate), Aviation Research (Graduate)

ASCI 5910 - Graduate Internship
1-6 Credits (Repeatable for credit)

ASCI 5930 - Special Topics
1-3 Credits (Repeatable for credit)

ASCI 5950 - Special Study for Examination
1-3 Credits (Repeatable for credit)

ASCI 5980 - Graduate Independent Study in Aviation Science
1-3 Credits (Repeatable for credit)
Attributes: Aviation Elective (Graduate)

ASCI 6010 - Federal & International Regs
3 Credits
This course provides in-depth examination of the history and development of domestic and international regulations governing the aviation industry. Participants will discuss the impact of domestic and international governing bodies and the resulting regulations that impact aviation companies in the global marketplace.
Attributes: Aviation Elective (Graduate), Aviation Foundation (Graduate)

ASCI 6020 - Flight Op's Business & Admin
3 Credits
A survey of aviation business strategies including, the marketing of aviation products, principles of product design and management, pricing and revenue management, advertising and promotion, and product distribution channels.
Attributes: Aviation Elective (Graduate), Aviation Foundation (Graduate)

ASCI 6030 - Aviation and Public Policy
3 Credits
This course explores the domestic and international regulatory, economic, legal and political environment that aviation companies operate within. The specific influences and relationships between the various market participants and regulating bodies are thoroughly explored.
Attributes: Aviation Elective (Graduate), Aviation Foundation (Graduate)

ASCI 6070 - Aviation Training Methods
3 Credits
Provides a critical analysis of practices, expectations, strategies, and responsibilities of the aviation instructor, including an in-depth study of learner-centric pedagogy and its application to collegiate flight education.
Attributes: Aviation Elective (Graduate), Aviation Foundation (Graduate)

ASCI 6930 - Special Topics
3 Credits (Repeatable for credit)

ASCI 6960 - Project Guidance
0-6 Credits (Repeatable up to 6 credits)
Final project for the Doctor of Aviation.

ASCI 6980 - Graduate Independent Study in Aviation Science
1 or 3 Credits (Repeatable for credit)

ASCI 6990 - Dissertation Research
0-6 Credits (Repeatable for credit)