

# 2015-2016 Aviation Courses

## **AVIA 101 Air Transportation (4)**

Air Transportation focuses on the development of the aerospace industry with special emphasis on commercial air transportation—past, present, and future. The course also serves as an introduction to air transportation management, covering airline economics and marketing. An introduction to General Aviation will broaden the student's perspective of the aviation industry.

## **AVIA 202 Aircraft Systems I (3)**

An introduction to the basic flight and utility systems of modern light aircraft. The course prepares students to use the systems as they are designed to be used. It explores the advantages of various designs and introduces the concept of failure mode analysis. Students learn to use the failure modes to validate the Approved Flight Manual/Pilot Operating Handbook normal and emergency procedures for operation of the various light airplane systems. Prerequisite: AVIA 101. Offered Fall semester.

## **AVIA 302 Air Traffic Control System (3)**

Provides the student with a rigorous understanding of the air traffic control system, including design and operating parameters. It covers both communication and navigation procedures and techniques. Offered Spring semester.

## **AVIA 303 Meteorology (3)**

Covers weather and climate with emphasis on aviation applications. Students study air masses; storms and general weather hazards; meteorological forecasting, mapping, and instrumentation; and worldwide climate typologies. Offered Spring semester.

## **AVIA 304 Aircraft Systems II (3)**

I Introduces the advanced flight control and utility systems of modern transport airplanes. The course prepares the student to use the systems as they are designed. It explores the advantages and disadvantages of various designs. Advanced powered systems will be introduced. Failure mode analysis is expanded to include systems operating under extreme conditions of high altitude and high speed. Students use the failure modes to validate the Approved Flight Manual normal and emergency procedures for operation of the various transport aircraft systems. Prerequisite: AVIA 202. Offered Spring semester.

## **AVIA 324 Human Factors in Flight (4)**

Covers the pilot, the aircraft, and operating policies as essential components in the safe conduct of flight. It features a case study approach in exploring aviation accidents and their causes, leading the student to an understanding of how such accidents can be prevented by appropriate policies, thorough planning and safe flying practices. Offered Fall semester.

**AVIA 325 Business and Corporate Aviation (4)**

Discusses the theoretical and practical aspects of managing a corporate flight department, including staffing considerations, financial planning, and other types of executive and operational decision-making. The course integrates information on the support service providers. It also broadens the student's understanding of corporate business and charter operations and management. Prerequisite: AVIA 101. Offered Spring semester.

**AVIA 335 Aviation Law (3)**

Examines the origins and development of the system of law and legal reasoning. Students will understand the evolution of administrative law with focus on the Federal Aviation Administration and how its regulations are enacted and enforced. Prerequisite: AVIA 101

**AVIA 401 Directed Studies (1-4)**

A tutorial-based course used only for student-initiated proposals for intensive individual study of topics not otherwise offered in the aviation program. Prerequisites: consent of instructor and school dean.

**AVIA 402 Aviation Capstone (4)**

A capstone experience for both Aviation Management and Flight Operations students who will work on interdisciplinary teams to address key topics in the aviation industry including human factors, safety management systems and sustainability. The course draws heavily on the knowledge and skills developed in the technical, business and liberal education classes. The course will also include a review of each student's eportfolio and provide the opportunity to address any weaknesses. Prerequisite: Senior Standing. Offered spring semester.

**AVIA 410 Flight Theory (1-4)**

All aspects of aircraft performance, with special emphasis on the effects of aerodynamic forces on an aircraft in motion, and how these forces interact with control inputs from the pilot. Also discussed are problems of stability and control, high-speed flight, and helicopter aerodynamics. Students gain an appreciation for how aircraft are designed to optimize specific performance parameters. Prerequisites: PHYS 151. Offered Spring semester.

**AVIA 412 Special Topics in Aviation (2-4)**

A general category for special topics courses, which are designed to broaden the knowledge of students interested in aviation.

**AVIA 415 Managing the Airport Environment (4)**

The theoretical and practical aspects of managing an airport are discussed, including staffing, assets, monetary functions, and the full spectrum of airport operations. Offered Spring semester.

**AVIA 430 Airline Operations and Cargo Management (4)**

Examines domestic and international airline operations and passenger and cargo operations. The course focuses on the economic and regulatory changes that have shaped the development of the aviation industry. Also explored are management techniques for survival and success. Prerequisite: AVIA 101. Offered Fall semester.

**AVIA 440 Internship (1-8)**

Students receive credit for meeting pre-arranged learning objectives while working for a company or non-profit organization. Internships give students the opportunity to compare their understanding of classroom material with current best practices in their field. Credit is based on the number of hours at the job site, and the nature of the learning objectives. Monthly class sessions reinforce the student learning objectives, and allow interns to compare their experiences with other interns. Prerequisites: junior or senior standing (transfer students must complete a minimum of 15 Westminster credit hours or obtain permission of instructor); and approvals from the Gore School of Business Practice/Experience Coordinator and the Career Center internship coordinator.