AE/CE/IE/MGT 8813 and IE 4803 Syllabus: An Introduction to Airline Economics and Management

Course Information

Instructor: Laurie Garrow (laurie.garrow@ce.gatech.edu)
Course Prefix and Number: AE 8813, CE 8813, ISyE 4803, ISyE 8813, MGT 8813 (cross-listed)
Term: Fall 2026

General Course Information

Description

The modern airline industry combines the challenges of running multiple types of businesses. A large airline can be as operationally complex as a major freight forwarder, with simultaneous operations in all time zones. It can utilize advanced predictive analytics and harness big data like a technology firm. It can manage international relationships and interface with global customers like a consumer-packaged goods company. A manager at an airline must have a broad-based skill set to tackle multiple business challenges in a fast-paced, extremely competitive environment.

This course provides a survey overview of key competencies required to successfully manage an airline. We will touch on issues of corporate strategy, finance, economics, organization, revenue management, and network theory and optimization.

Course Learning Outcomes

By the end of the course, students will be able to:

1. Explain the economic, historical, and regulatory foundations that shape the structure and competitive dynamics of the airline industry.

2. Analyze and compare airline business models and strategies, including cost structures, capacity planning, and network design.

3. Apply managerial economics and forecasting tools to evaluate profitability, demand, and market opportunities.

4. Assess and evaluate the role of partnerships and alliances (e.g., codeshares, joint

ventures) in extending networks and enhancing competitiveness.

5. Demonstrate and justify understanding of revenue and fleet management practices, explaining how they support long-term airline strategy.

6. Synthesize and design airline management strategies through experiential learning (case studies, industry lectures, and the PassengerSim simulation).

7. Communicate and defend insights effectively in written, oral, and team-based formats, integrating critical thinking with practical application.

Required Course Materials

Students will be required to purchase the case studies that are used in the course.

Grading Policy

Case Studies - 50%
PassengerSim Simulation Exercises - 30%
Midterm Exam - 20%

Grading Scale:
A 90-100%
B 80-89%
C 70-79%
D 60-69%
F <60%

Assignments

Case Studies
PassengerSim Simulation Exercises
Midterm Exam

Description of Graded Components

Course grades will be based on performance across multiple areas. Attendance and active participation are required and will be factored into the evaluation of both case studies and PassengerSim assignments.

Course Policies

Attendance and/or Participation

Attendance is mandatory, and both attendance and participation in class discussions contribute to graded assignments. Students are expected to engage actively in case study discussions and present their team's simulation strategies and results. Absences will only be excused if they meet university-approved criteria.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Any student suspected of cheating or plagiarizing on an exam or homework will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404) 894-2563 or http://disabilityservices.gatech.edu/, as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.