Advanced Information Systems and Business Analytics for Air Transportation

Introduction to the Course

M.Sc. Air Transport Management

May 16-21, 2016

Your Instructors

- ## Sertaç Karaman
  - Professor of Aeronautics and Astronautics
  - Email: sertac@mit.edu
- ## Benny Mantin
  - Professor of Management Science
  - Email: bmantin@uwaterloo.ca
- ## Nazım Kemal Üre
  - Professor of Aeronautics and Astronautics
  - Email: ure@itu.edu

- ## Access: through email and course web portal, before or after class

Course materials

- No main textbook: most course material is new!
- Materials from following textbooks will be used in some of the analytics lectures:
  - Saxena and Srinivasan, Business Analytics: A Practitioner's Guide, 2013, Springer
  - Kantdarzic, Data Mining: Concepts, Models, Methods and Algorithms, 2011, Wiley
- All materials posted on the course website and available in the course pack
  - Syllabus
  - Class slides, notes
  - Cases

Academic assessment

Project	30%	Application of IT/IS
Case Study	10%	Data in Excel
Final Exam	50%	3 hrs
Participation	10%	Engage, quality of contribution
Working in teams		3-4 people per team
Ad hoc **Homework**		Important for applying concepts

Learning objectives

- What is IT/IS?
  - The role of IT/IS
  - IT/IS in aviation
    - GDS, RM
    - Operations
    - Maintenance, etc.
  - Developing IS
- What is data analytics?
  - Analytics in Excel and other software
  - Aviation cases
  - Forecasting, simulations
  - Optimization
  - Machine learning
  - Visualization
- Application
  - Develop/propose an IS/Analytics solution

Solid skills set

IT/IS

Analytics

Application