

Department: Aerospace Engineering
Level and Major: Graduate

Division: Flight Mechanics

Course Title: Flight Simulation

Number of Credits: 3

Prerequisite : -

Lecturer: Kamran Raisssi

Course Description:

Modeling, Simulation principles, Motion, Vision, Instruments, and Standards of flight simulator

Course Goals and Objectives:

Gain the knowledge of flight simulators and learn its principles.

Course Topics

- Introduction
- Simulation standards
- Modeling
- Flight test and model validation
- Software platform
- Instrumentation simulation
- Aircraft systems simulation
- Motion system simulation
- Vision system simulation
- Sound system simulation
- Instructor station simulation
- Virtual reality
- Space launch system simulation
- Satellite orbit simulation

The course aims to:

Ability to design and work with flight simulators.

Reading Resources

D. Allerton, "Principles of Flight Simulation", John Wiley and sons, 2009

Evaluation:

Homework
Midterm Exam
Project
Final exam