MMAE 441: Aircraft and Spacecraft Dynamics

Syllabus
Instructor: Matthew M. Peet
Location: LS-152

Instructor  Matthew M. Peet, Assistant Professor of Aerospace Engineering. Office: E1-252B.

Office Hours  MW 3:10-5:00.

Teaching Assistant  Aditya Gahlawat. Office: E1-030.

TA Office Hours  TTh 5:00-7:00.

Homework  Due biweekly on Friday by 5:00 to the TA (box or office).

Problem Session  T 4:00-5:00.

Content  Aircraft Dynamics: Linearized equations of motion. Modes and natural motion of aircraft.
Spacecraft Dynamics: Orbits and Orbital Elements. Orbital Insertion and Transfer. Interplanetary Trajectories.

Schedule  MW 1:50-3:05. There will be an Mid-Term examination on Aircraft Dynamics. There will be a final examination on Spacecraft Dynamics.

Prerequisites  Courses on Matrix Analysis, Differential Equations.

Text  The textbooks are
"Orbital Mechanics" by J. Prussing and B. Conway.

Evaluation  Homework will be the basis for 30% of the grade. Problem sets will be given on a biweekly basis. Late homework will be graded for 50% credit. Submit late homework directly to the TA. An in-class midterm and an in-class final exam will be given, each for 35% of the grade. Note: These percentages are approximate and are subject to change based on performance. Grade distribution is at the discretion of the instructor.