CALIFORNIA INSTITUTE OF TECHNOLOGY
Control and Dynamical Systems / Department of Aerospace
CDS 270, AE 240: Flight Control
Annenberg 107, Fridays, 10 am – noon.
Spring 2014

Instructor

Eugene Lavretsky, eugene.lavretsky@boeing.com
Office Hours: Fridays, by appointment

Grading

Letter or Pass/Fail.

Prerequisites

Basic understanding of linear systems theory and control methods, Ability to simulate dynamical systems in MATLAB.

Course Outline

The main goal of this course is to introduce flight control concepts and challenges for aerial vehicles, and address their solutions via theoretically-based control design/analysis methods. The latter will include robust and adaptive controllers. Realistic aerospace applications will be discussed. The course material will cover selected chapters from the course textbook [1]. Homework will be assigned once a week. Mid-term and Final exams will be given.

Grading

Attendance	5%
Homework	40%
Midterm	25%
Final	30%

Course Textbook:

1. E. Lavretsky, K.A. Wise, *Robust and Adaptive Control With Aerospace Applications*, Advanced Textbooks in Control and Signal Processing, Springer-Verlag, London, ISBN: 978-1-4471-4395-6 (Print), 978-1-4471-4396-3 (Online), 2013.

Supplementary Textbooks

1. B.L. Stevens, F.L. Lewis, *Aircraft Control and Simulation*, John Wiley & Sons, Inc., 1992.
2. H.K. Khalil, *Nonlinear Systems*, 3rd Edition, Prentice Hall, New Jersey, 2002.