AER1202
ADVANCED FLIGHT DYNAMICS (Fall 2007)
http://ccnet3.utoronto.ca/20081/aer1202hs/

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Time Table — Mondays Sept. 10 - Dec. 17, 2:00am - 5:00pm, Lecture Hall

Curriculum — This is a graduate-level course to the dynamics of flight. Topics cover both introductory and advanced contents, including the flight dynamic equations of motion (introductory) and its analysis (advanced); stability and control, both static (introductory) and dynamic (advanced). Other (optional) advanced topics may also be covered, such as the automatic flight control, flight in a turbulent atmosphere, nonlinear flight regimes, and so on.

prerequisite: AER301 - Dynamics or equivalent. In order for the completeness, there is approximately 25% repetition of AER302 (used to be AER402) - Aircraft Flight.

Course Materials
- B. Etkin, *Dynamics of Atmospheric Flight*, John Wiley & Sons, 1972 (Dover Edition, 2005)
- Lecture notes and supplementary articles.

Marking Scheme

Assignments	30%
Project (Report)	50%
Mini-lecture Presentations	20%

Tentative Timetable

Date: M 2-5, LH	Ch #	Topic	Task
Sep. 10 (2-3pm) Sep. 13 (Th, 10-11am)		Information Session	
Sep. 17	1	Vector/Matrix Algebra	
Sep. 24	2	Rigid-Body Dynamics	Assignment 1 (10%) due Oct. 15
Oct. 01	3	Aircraft Reference Frames	
Oct. 08		*Thanksgiving, no class*	
Oct. 15	4	General Equations of Unsteady Motion	Assignment 2 (10%) due Oct. 29
Oct. 22	5	Longitudinal Aerodynamic Analysis	
Oct. 29	6	Lateral Aerodynamic Analysis	Assignment 3 (10%) due Nov. 12
Nov. 05	7	Longitudinal Stability and Control	
Nov. 12	8	Lateral Stability and Control	Project (50%) due Dec. 03
Nov. 19	9	Closed-loop Feedback Control	
Nov. 26	10	Flight Control Systems Development	Mini-lecture Topic presentation on Dec. 10
Dec. 03	11	Optional Topic: Flight in a Turbulent Atmosphere	
Dec. 10		Students' Mini Lectures	Presentations (20%)

Important! To register and login to the course website!!! Sorry, the website is not activated yet. CCNET technical support is working on it.