

**UUM 523E, Advanced Flight Dynamics**  
**Prof. Dr. Mehmet Şerif Kavsaoglu**  
**2005-2006 Fall, Course Outline**

Aircraft Equations of Motion	3 weeks
Aerodynamic and Thrust Forces and Moments	2 weeks
Numerical Solution of the Nonlinear Aircraft Equations of Motion	2 weeks
Midterm Examination	1 week
Linearization of the Equations of Motion	3 weeks
Aircraft Dynamic Stability	3 weeks

**Grading**

Midterm	20 %
Homeworks	35 %
Attendance	5 %
Final Examination	40 %

**References**

1. Yechout T.R., Morris S. L., Bosserties D. E., Hallgren W. F., "Introduction to Aircraft Flight Mechanics: Performance, Static Stability, Dynamic Stability and Classical Feedback Control", AIAA Education Series, 2003.
2. Etkin B., Reid L. D., "Dynamics of Flight Stability and Control", Third Edition, Wiley, 1995.
3. Roskam J., "Airplane Flight Dynamics and Automatic Flight Controls", Parts 1 and 2, DARcorporation, 2001.
4. Advanced Aircraft Analysis, Version 2.5, DARcorporation, 2004.
5. Abzug M. J., "Computational Flight Dynamics", AIAA Education Series.
6. Smetana F. O., "Computer Assisted Analysis of Aircraft Performance, Stability and Control", McGraw-Hill, 1984.