Instructor: Hanno H. Weitering  
Office: 406-B Nielsen Physics Building  
Phone: 974-7841 E-mail: hanno@utk.edu  
Class: 09:05 - 09:55 M-W-F in Nielsen Physics 306  
Office Hrs: 10:00 - 11:30 Mon & Fri or by appointment

Texts:  
• Classical Dynamics of Particles and Systems, 5-th Ed by S.T. Thornton and J.B. Marion  
Matlab Guide by D.J. Higham and N.J. Higham or Getting Started with MATLAB by Rudra Pratap

Tests and Grades:  
Two hour tests (midterms) 50%  
Homework 25%  
Final exam 25%

# Class preparation and protocol: It is really important to keep up with the work, since the material builds on itself. Each day, preview the topics for the next class; after class, study the topics in detail and work the assigned exercises. Ask questions and participate! Homework assignments will be handed out once per week and must be turned in one week later, same day. Homework is graded on a scale from 1 (= poor) to 3 (very good or excellent).

# Communication and Computing: Do not hesitate to contact me if you are stuck with the homework. If you drop me an email, you will usually get a response within a day! We’ll use MATLAB, which is available on the departmental PCs in Nielsen 512 and some PCs in Nielsen 203. (Optional - a student version of MATLAB is available for ~$100; ask at the Computer Store).

# Cheating: Cheating will not be tolerated – everyone must have an equal chance to do well. The penalty for cheating on any aspect of this course will be an “F” for the course. No outside materials are permitted on any test or exam, except those specified by the instructor.

Tests:  
Test I:  
Test II:  
Final Exam: Monday, May 5, 2008 from 8:00-10:00 am in PHY 306

Ch: § Topic

7  Lagrangian and Hamilton Dynamics  
8  Central Force Motion  
10  Motion in a Non-inertial Reference Frame  
11  Dynamics of Rigid Bodies  
12  Coupled Oscillations  
14  Special Theory of Relativity

OUR OBJECTIVES in this COURSE

✓ Gain deeper understanding of classical mechanics and special relativity.  
✓ Develop more generalized approach to Mechanics, e.g., as in Lagrangian methods.  
✓ Advance your skills and capability for formulating and solving problems.  
✓ Develop some capabilities for numerical methods, to obtain solutions to problems too difficult or impossible to solve analytically.  
✓ Hone your math skills.  
✓ Expand and exercise your physical intuition and instincts.