Physics 311: Classical Mechanics
Fall 2003: Section 72817

Instructor: James R. Thompson
Office: 406-A Nielsen Physics Building
Phone: 974-7837 [or 574-0412 at ORNL on Tues & Thur]
E-mail: JRT@UTK.EDU
Class: 10:10 - 11:00 M-W-F in South College 107
Office Hrs: 1:00 - 3:00 Mon & Fri (if this does not work, then before class 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

Tests and Grades: Two hour tests 50%
Homework 25%
Comprehensive 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!

Communication and Computing: I will use email to communicate and confirm assignments with you, so please give me an operational email address and check the account regularly. Learning numerical methods is an important component of the class -- we’ll use Matlab, which is available on all the departmental PCs in Nielsen 512 and also several of the PCs in Nielsen 203.

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 in writing by the instructor.

Tests:
Test I:
Test II:
Exam: 4 Dec 2003 (Thursday) at 10:15 - 12:15

Ch: § Topic Exercises and Problems
1 Matrices, vectors, calculus set 1: # 1, 3, 4, 14, 15
  set 2: # 10, 25, 26, 31, 34, 36, 40
2 Newtonian Mechanics- one particle set 3: # 3, 6, 10 (MATLAB), 12, 23 (MATLAB), 24
  set 4: # 27, 37, 47 (MATLAB),
3 Oscillations set 5: # 1, 2, 13, 19, 23 (MATLAB), 28 (MATLAB)
4 Nonlinear Oscillations, Chaos set 6: # 1, 2, 6, 10 (MATLAB), 11, 12
5 Gravitation set 7: # 2, 5, 9, 13, 16
6 Calculus of Variations set 8: # 2, 4, 5, 7, ...

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