

SYLLABUS for PHY 322: Intermediate Mechanics

March 20, 2007

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Office hours: 1:50 Tue. (or arrange by phone or e-mail)

Textbook: “Elements of Newtonian Mechanics,” Knudsen and Hjorth

Chapters covered: 1-10,14,15

GOALS

1. Understand the foundations of classical mechanics.
2. Learn the limits of classical mechanics.
3. Master the computational techniques in classical mechanics.
4. Learn to think like a scientist.

Major Topics

1. Newton’s Law’s of Motion
2. Newton’s Laws in Moving Reference Frames
3. Conservation Laws: E , \vec{p} , \vec{L}
4. Elliptical Orbits; Harmonic Oscillator

Grading

1. 15% Classwork, Office Hours
2. 30% Homework
3. 30% Examinations (3)
4. 25% Final Exam

Bring to Class:

1. Textbook
2. Calculator
3. Paper

Homework

Date	Questions(p)	Problems(Ch-#)
Jan 23	14,16,33,36	1-2,5,8
Jan 30	47,50,54	2-3,,6,10,11
Feb 6	40,56	2-12,14,17,20;3-1
Feb 13		4-1,2; 5-1,2
Feb 20		6-1,2,3,4,5
Feb 27		6-8,10,11
Mar 6		Study for exam
Mar 13		Spring Break
Mar 22	183	8-3,5,6,9
Mar 27		9-1,2,5
Apr 3		9-3,6,9
Apr 10	211	11.3
Apr 17		14-2,3,5,7
Apr 26		15-2,3,4
May 1		Last class

Examinations

1. Feb 15: Exam I; Ch 1,2
2. Mar. 8 Exam II: Ch. 4-6
3. Apr. 12 Exam III: Ch. 7-10