

Physics 310 - Intermediate Mechanics

Instructor: Jones
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Title: Intermediate Mechanics
Offering: Fall 2004, Class 4, cr. 4.
Room: PHYS 111
Time: Currently 9:30-11:20 Tuesday and Thursday
Prerequisites: Math 261 and two terms of general physics
Text: Fowles and Cassiday, *Analytical Mechanics*, 6th ed.
Description: Review of vector calculus, rectilinear motion in one dimension, oscillations, motion in three dimensions, non-inertial reference frames, gravitating systems, systems of particles, motion of rigid bodies, Lagrangian mechanics, systems of oscillating particles.

Proposed schedule:

Week 1	Aug 23	Units, vectors, coordinate systems
2	Aug 30	Motion in one dimension
3	Sep 6	Oscillations
4	Sep 13	Harmonic motion
5	Sep 20	Motion in 3 dimensions
6	Sep 27	Non-inertial reference frames
7	Oct 4	(First mid-term exam) Central forces and gravitation
8	Oct 11	(Reading break) Systems of particles
9	Oct 18	Rigid bodies
10	Oct 25	Rigid bodies (cont.)
11	Nov 1	Motion of rigid bodies
12	Nov 8	(Second mid-term exam) Motion of rigid bodies (cont.)
13	Nov 15	Lagrangian mechanics
14	Nov 22	Lagrangian mechanics (cont.)
15	Nov 29	Oscillating systems
16	Dec 6	Review
17	Dec 13	Final exam week

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Grading:

The final grade will be based on two mid-term exams, a final exam, assignments and in-class quizzes. These will be weighted as follows:

Quizzes	50
Assignments	100
First mid-term	100
Second mid-term	100
Final exam	200
<hr/> Total	<hr/> 550

The quizzes are primarily intended to determine whether you are keeping up with the material. They will only test your understanding of the most basic concepts that we cover and not your ability to carry our detailed calculations. There will be no make-up quizzes — a missed quiz counts as zero.

There will be approximately six homework assignments. Late homework will be accepted but will be penalized as follows:

<hr/> Lateness	<hr/> Grade reduction
1 day	25%
2 days	35%
3 days	50%
4 days	60%
5 days	75%
1 week	—

Homework that is over one week late will not be graded.