Physics 310 - Intermediate Mechanics - Fall 2006

Instructor: Jones
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URL: http://www.physics.purdue.edu/~mjones/phys310
Title: Intermediate Mechanics
Offering: Fall 2006, Class 4, cr. 4.
Room: PHYS 110
Time: Currently 9:30-11:20 Tuesday and Thursday
Office hours: Phys 378/337, 11:30-12:30 Tuesday and Thursday or by appointment
Prerequisites: Math 261 and two terms of general physics
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 21 Review of calculus, vectors, coordinate systems
2 Aug 28 Motion in one dimension
3 Sep 4 Oscillations
4 Sep 11 Harmonic motion
5 Sep 18 Motion in 3 dimensions
6 Sep 25 Non-inertial reference frames
7 Oct 2 Central forces and gravitation
8 Oct 9 (Reading break) (First mid-term exam)
9 Oct 16 Systems of particles
10 Oct 23 Rigid bodies
11 Oct 30 Rigid bodies (cont.)
12 Nov 6 Motion of rigid bodies
13 Nov 13 Motion of rigid bodies (cont.)
14 Nov 20 (Second mid-term exam)
15 Nov 27 Lagrangian mechanics
16 Dec 4 Oscillating systems
17 Dec 11 Final exam week
Physics 310 - Intermediate Mechanics

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:

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<table>
<thead>
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<tbody>
<tr>
<td>Quizes</td>
<td>100</td>
</tr>
<tr>
<td>Assignments</td>
<td>200</td>
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<tr>
<td>First mid-term</td>
<td>100</td>
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<tr>
<td>Second mid-term</td>
<td>100</td>
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<tr>
<td>Final exam</td>
<td>200</td>
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<td><strong>Total</strong></td>
<td><strong>700</strong></td>
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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 out detailed calculations. There will be no make-up quizzes and a missed quiz counts as zero. However, we will drop the lowest two scores for the quizzes when calculating the final grade.

There will be two mid-term exams and one final exam. There will be no scheduled make-up exams so if they are missed then they will be assigned a mark of zero. However, if it is advantageous to your final mark, the mark on one mid-term will be ignored when calculating the final grade, in which case the total score would be out of 600.

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

<table>
<thead>
<tr>
<th>Lateness</th>
<th>Grade reduction</th>
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<tbody>
<tr>
<td>1 day</td>
<td>25%</td>
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<tr>
<td>2 days</td>
<td>35%</td>
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<tr>
<td>3 days</td>
<td>50%</td>
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<tr>
<td>4 days</td>
<td>60%</td>
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<tr>
<td>5 days</td>
<td>75%</td>
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<tr>
<td>1 week</td>
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Homework that is over one week late will not be graded.
Confused? Ask for more explanation in class.