Physics 221 – Honors General and Modern Physics I
Tu Th 9:30 – 10:45 of Spring 2008 in EPS 108

Instructor: Prof. Dana Longcope (longcope@physics.montana.edu)
Office: EPS260D Phone: 994-7851
Web Page: http://solar.physics.montana.edu/dana/ph221

Office Hours:
- EPS 260D: M 11:00-11:50
- Help Center EPS255: Open M-F (hours posted on door)
  - Get help from Grad. Students or Professors (from me W 10:00-10:50)

By e-mail or phone appointment.
Schedule at http://solar.physics.montana.edu/dana/sched.html

COURSE DESCRIPTION: From the Undergraduate Course Catalog: “Concepts are discussed in more depth and the range of applications is greater. Covers topics in mechanics (such as motion, Newton’s laws, conservation laws, work, energy, systems of particles, and rotational motion) and in mechanical waves (such as oscillations, wave motion, sound, and superposition).”

GRADING:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Quizzes/Participation (10 pts/week)</td>
<td>13%</td>
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<tr>
<td>Homework (24 @ 10 pts each)</td>
<td>22% [ Drop 2 ]</td>
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<tr>
<td>Midterm Exams (3@100 pts each)</td>
<td>25% [Drop ½ of lowest ]</td>
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<td>Labs (9 @25 pts each)</td>
<td>20% Drop 1</td>
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<tr>
<td>Final Exam (cumulative)</td>
<td>20%</td>
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<tr>
<td>TOTAL</td>
<td>100%</td>
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GRADE SCALE:
- A: Mastery (90% - 100%)
- B: Proficiency (80% - 89%)
- C: Familiarity (70% - 79%)

HOMEWORK: Assignments made in class with an absolute due date (no late sets). Must represent YOUR work, but group discussions are encouraged.

Assignments & other course info will be posted on http://solar.physics.montana.edu/dana/ph221

TEXTS:
- REQUIRED: I>clicker
COURSE OUTLINE
(subject to change)

Kinematics
Serway, Ch. #1: Physics and Measurement
Serway, Ch. #2: Motion in One Dimension
Serway, Ch. #3: Vectors
Serway, Ch. #4: Motion in Two Dimensions

Midterm Exam #1  Wed Feb. 6, 6:15PM
Newton’s Laws, Work and Energy
Serway, Ch. #5: The Laws of Motion
Serway, Ch. #6: Circular Motion
Serway, Ch. #7: Energy and Energy Transfer
Serway, Ch. #8: Potential Energy

Midterm Exam #2
Momentum and Rotational Motion
Serway, Ch. #9: Linear Momentum and Collisions
Serway, Ch. #10: Rotation of a Rigid Body
Serway, Ch. #11: Angular Momentum
Serway, Ch. #12: Static Equilibrium

Midterm Exam #3
Gravity and Waves
Serway, Ch. #13: Gravity
Serway, Ch. #15: Oscillatory Motion
Serway, Ch. #16: Wave Motion
Serway, Ch. #17: Sound Waves
Serway, Ch. #18: Standing Waves

FINAL EXAM: During exam week