

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: Quizzes/Participation (10 pts/week)	13%	
Homework (24 @ 10 pts each)	22%	[Drop 2]
Midterm Exams (3@100 pts each)	25%	[Drop ½ of lowest]
Labs (9 @25 pts each)	20%	Drop 1]
Final Exam (cumulative)	20%	
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TOTAL	100%	

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: Jearl Walker – Fundamentals of Physics, 8th Edition.

REQUIRED: Physics 211/221 Laboratory Manual.

REQUIRED: I>clicker

COURSE OUTLINE

(subject to change)

Kinematicss

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: WaveMotion
Serway, Ch. #17: Sound Waves
Serway, Ch. #18: Standing Waves

FINAL EXAM: During exam week