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Fall 2015

PHYS 1061

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University of New Orleans

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PHYS 1061 Mechanics and Waves

Fall 2015 – TuesThurs 11:00 am – 12:15 pm, SC 1053

Text: Paul A. Tipler and Gene Mosca, Physics for Scientists and Engineers, Freeman, 6th edition, 2008

Class	Date	Chapter	Topics
1	Aug 20	1, 2	Introduction; position, velocity, acceleration
2	Aug 25		vectors; constant acceleration
3	Aug 27	3	projectile motion, uniform circular motion
4	Sep 1	4	Newton's first law, force and mass
5	Sep 3		Newton's second and third laws
6	Sep 8	5	friction, drag
7	Sep 10		review for test 1
8	Sep 15		Test 1
9	Sep 17	6	kinetic energy, work
10	Sep 22	7	potential energy
11	Sep 24		conservation of energy
12	Sep 29	8	linear momentum, conservation of linear momentum
13	Oct 1		collisions
14	Oct 6	9	rotation, rotational inertia, torque
15	Oct 8		Newton's second law for rotation
16	Oct 13	10	angular momentum
	Oct 15-16		Fall Break
17	Oct 20		conservation of angular momentum
18	Oct 22		review for test 2
19	Oct 27		Test 2
20	Oct 29	12	equilibrium, elasticity
21	Nov 3	11	gravitation, Kepler's laws
22	Nov 5	13	fluids, Pascal, Archimedes, Bernoulli
23	Nov 10	14	simple harmonic motion
24	Nov 12		damped and forced oscillations
25	Nov 17	15	waves, frequency, wavelength, speed, wave equation
26	Nov 19		reflection, transmission, refraction, Doppler effect
27	Nov 24	16	superposition of waves
	Nov 26-27		Thanksgiving holiday
28	Dec 1		standing waves & resonance, beats
29	Dec 3		review for final exam
30	Dec 8		Final Exam – Comprehensive – Tuesday, Dec 8, 10 am to noon

Juliette W. Ioup

Department of Physics

University of New Orleans

Office hours: 1-3 pm MWF, 12:30-3 pm TTh, and any time available or by appointment

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Fall 2015

Homework

Sapling Learning – You must enroll yourself at <http://bcs.whfreeman.com/tiplerphysics6e/>
Required homework problems will be listed on Sapling Learning.

notice deadlines – no extensions

total points scaled to 50 at end of semester

Tests

class review before each test

show all work clearly for credit

makeup tests are harder

Course Grade

Exam 1	100 points	29 %
2	100	29
Final	100	29
Homework	<u>50</u>	<u>13</u>
	350 points	100 %

Final grades are made on a curve based on the total number of points (maximum 350) accumulated by each student.

Academic dishonesty will not be tolerated. UNO Judicial Code is available online at http://www.uno.edu/~stlf/Policy%20Manual/judicial_code_pt2.htm.

Student Learning Outcomes

- * Learn techniques for solving basic physics problems
- * Understand the basic concepts and equations of classical mechanics
- * Understand Newton's Laws of Mechanics and Law of Gravitation
- * Understand the basic concepts of rotational motion
- * Understand the basic concepts of oscillations and wave motion
- * Solve simple mechanics and wave problems

Attendance Policy

Attendance will be monitored for every class. The total number of points (from homework and tests) accumulated by each student will determine the final grade.

Additional Useful Textbooks

1. Raymond A. Serway, Physics for Scientists & Engineers with Modern Physics, 2000, Saunders, fifth (or later) edition
2. John R. Taylor and Chris D. Zafiratos, Modern Physics for Scientists and Engineers, 1991, Prentice Hall
3. David Halliday, Robert Resnick, and Jearl Walker, Fundamentals of Physics, extended edition, Wiley, 2011, ninth (or later) edition
4. Ronald Lane Reese, University Physics, 2000, Brooks/Cole Publishing

Prerequisites

MATH: introductory differential calculus

Co-registration in the accompanying laboratory course PHYS 1063 required

Students are expected to conduct themselves according to the UNO Student Code of Conduct, available online at <http://www.studentaffairs.uno.edu>.

Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the UNO Student Code of Conduct for further information. The Code is available online at <http://www.studentaffairs.uno.edu>.

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students who seek accommodations for disabilities must contact the Office of Disability Services prior to discussing their individual needs for accommodation with their instructors. For more information, please go to <http://www.ods.uno.edu>.

Additional information can be found on Moodle.