

Science 33: Principles of Physics: Section 2 [Fall 2007]

Instructor: J. C. Higdon

Office: 116 Keck Science Center

Telephone: (office) ext. 8402; (home) 626-6015

E-mail: jimh@lobach.JSD.claremont.edu

Class Site: <http://faculty.jsd.claremont.edu/jhigdon/phys33>

Text: *University Physics, 12th ed: with Modern Physics*, 2007, by H. D. Young, & R. A. Freedman (Addison-Wesley: San Francisco).

				Young
Sep	04	Tu	Introduction	
	06	Th	Kinematics: vector addition & one-dimensional motion	1.7–1.9, 2.1–2.2
	11	Tu	Kinematics: one-dimensional motion – acceleration	2.3–2.5
	13	Th Q	Kinematics: two-dimensional motion & projectiles	3.1–3.3
	18	Tu	Kinematics: circular motion & relative motion	3.4–3.5
	20	Th Q	Dynamics: Newton’s laws	4
	25	Tu	Dynamics: friction, drag, & circular motion	5
	27	Th Q	Work: kinetic energy, gravity, & variable forces	6.1–6.4
Oct	02	Tu	Energy: conservative forces & potentials	7.1–7.2
	02	Tu	Test 1 NOTE: 7 to 9 PM	
	04	Th	Energy: systems	7.3–7.4
	09	Tu	Momenta: impulse, conservation of momenta, & collisions	8.1–8.3
	11	Th Q	Momenta: two-dimensional collisions & center of mass	8.4–8.5
	16	Tu	Rotational Kinematics	9.1–9.5
	18	Th Q	Rotational Dynamics: torques	10.1–10.4, 1.10
	23	Tu	– Fall Break –	
	25	Th Q	Rotational Dynamics: angular momenta	10.5–10.6
	30	Tu	Equilibrium & Elasticity: statics	11.1–11.3
	30	Tu	Test 2 NOTE: 7 to 9 PM	
Nov	01	Th	Oscillations: simple harmonic motion	13.1–13.4
	06	Tu	Oscillations: pendulums	13.5–13.6
	08	Th Q	Waves: wavelength, frequency, & speed	15.1–15.5
	13	Tu	Waves: interference, superposition & normal modes	15.6–15.8
	15	Th Q	Waves: sound	16.1–16.4
	20	Tu	Waves: resonance, beats & Doppler effect	16.5–16.8
	22	Th	– Thanksgiving –	
	27	Tu	Thermodynamics: heat, specific heats, & phase changes	17.5–17.6
	29	Th	Thermodynamics: Kinetic-Molecular Model of an Ideal Gas	18.3–18.4
Dec	04	Tu	Thermodynamics: 1 st Law	19.1–19.4
Dec	04	Tu	Test 3 NOTE: 7 to 9 PM	
	06	Th	Thermodynamics: adiabatic gas expansion	19.5–19.8
	11	Tu	Thermodynamics: heat engines	20.1–20.4
	13	Th	Thermodynamics: 2 nd law & Carnot cycle	21.4–21.6
			FINAL	
			December 19 Wednesday 9 AM	

Labs: 134 Keck Science Center

Times: Thursday: 1:15 to 4:15 PM OR 6:30–9:30 PM

Instructor: Scot A. C. Gould – Office: 113 Keck Science Center –Tel: 73197

1	09/13	Average versus instantaneous velocity.
2	09/20	Two-Dimensional Projectile Motion.
3	09/19	Force Table.
4	09/27	Buoyancy.
5	10/04	Work/Energy Theorem.
6	10/11	Linear Momenta.
7	10/18	Torques.
	10/25	Fall Break.
8	11/01	Angular Momenta.
9	11/08	Simple Harmonic Motion.
10	11/15	Wave Motion.
	11/22	Thanksgiving.
11	11/28	Fourier Analysis'

Grading policy:

Tests (3 tests 13.3% each)	40%
Laboratory exercises	15%
Quizzes	10%
Homework	15%
Final Exam	20%

Make-up tests will be permitted only: in an event of an illness (a physician's note required), and when an athlete participates in an away game (the coaching staff must supply a note). Homework problems are assigned each week. A penalty of 15% per day is assigned to late work. Any exceptions must be arranged prior to the date homework is due.