PHYSICS 211.2 UNIVERSITY PHYSICS II

Instructor:	J. Hahn	MM 301B, 420-5428, `jhahn@ap.smu.ca`
		`http://apwww.stmarys.ca/~jhahn`
Lectures:	Loyola 170	Tues & Thurs, 10:00 am – 11:15 am
Labs:	MM 023	Mon, Tues, or Thurs, 2:30 pm – 5:30 pm
Tutorials:	MM 013	Mon, Tues, or Thurs, 2:30 pm – 5:30 pm
Office Hours:	Mon & Wed, 1:00 pm–3:00 pm	
Textbook:	*Fundamentals of Physics*, by Halliday, Resnick, & Walker, 6th ed.	
Assignments:	Assigned on most Tuesdays, normally due one week later in class.	
	Assignments are *not* accepted after class ends; no exceptions.	
Assessment:	Laboratory	25%
	Tutorials	5%
	Assignments	20%
	midterm	20%
	Final	30%
Course Web Site:	`http://apwww.stmarys.ca/~jhahn/phy_211/2005spring`	

In order to pass the course, you must get 15/30 or greater on the lab/tutorial portion *and* 35/70 or greater on the rest.

This course will survey three critically important topics in classical physics:

1. Oscillations and Waves (2 weeks, Chapters 16–18);

2. Thermodynamics (3 weeks, Chapters 19–21);

3. Electrodynamics (7 weeks, Chapters 22–32).

Table 1 gives a tentative schedule for the lectures, assignments, practice problem sets, and labs. A symposium has been scheduled in week 7 (February 15 and 17) during which four SMU faculty will each give a short presentation describing their area of research. These short lectures are designed to give you an idea of some of the exciting activities in the areas of physics and astrophysics going on in our Department, as well as to introduce you to some of our other faculty. Sit back and enjoy these lectures; they are designed to tweak your interest and curiosity but will not be anything you will see on an assignment or an exam.

TABLE 1: Lecture/Tutorial/Lab Schedule

Calendar		Assignment due this week	Tutorial problem sets	Lab
Tuesday	Thursday			
Jan 4 Ch16	Jan 6 Ch16/17	—	—	—
Jan 11 Ch17	Jan 13 Ch18	—	1	6
Jan 18 Ch19	Jan 20 Ch19	0	1, 2	6
Jan 25 Ch20	Jan 27 Ch20	1	2, 3	7
Feb 1 Ch21	Feb 3 Ch21	2	3, 4	7
Feb 8 Ch22	Feb 10 Ch23	3	4, 5	8
Feb 15, 17; symposium		4	5, 6	8
Feb 22, 24; winter break		—	—	—
Mar 1 Ch24	Mar 3 Ch24	5	help week	
Mar 8 midterm	Mar 10 Ch25	—	6, 7	9
Mar 15 Ch25/26	Mar 17 Ch26	6	7, 8	9
Mar 22 Ch27/28	Mar 24 Ch29	7	make-up week	
Mar 29 Ch30	Mar 31 Ch30	—	8, 9	10
Apr 5 Ch31	Apr 7 Ch31	8	9	10
Apr 12 Ch32	Apr 14 no class	9	help week	

Two help weeks are planned in which no laboratory or formal tutorial are scheduled. The first help-week is in week 9 to help you prepare for the midterm on March 8. The second help week is the last week of classes (week 15), and is scheduled to get you started preparing for the final exam.

Eleven practice problem sets (Table 2) have been designed to help you learn the material presented in the lectures, and prepare for the assignments. Sets 1–9 are done during the five three-hour tutorial sessions scheduled for each student throughout the term (see Table 1), while sets 10 and 11 may be handed in for extra credit. As in PHY 210, all tutorials are based on materials already covered in the lectures. **Attendance in the tutorial sessions is mandatory, and you should come prepared to work for the entire session.** Bring your textbook, ruled paper, writing materials (pencils, erasers, straight edges), and a calculator.

Nearly every week, five homework problems from the text will be assigned to be handed in in class normally one, and occasionally two weeks after. Due dates for assignments are always after similar problems have been covered in the tutorial, and thus assignments lag behind the lectures by two or three weeks. For students who like to work ahead, Table 3 gives all the readings to be assigned this term, when problems are assigned, and when they are due. Homework assignments are marked out of 50 points. By the third or fourth assignment, you should be regularly getting 40 or more. If not, you should seek my assistance during office hours.

TABLE 2: Practice Problem Sets (Tutorial)

Set	Problems	Topic(s)
1	Ch16: 12E, 25P, 34E, 49E, 53P	oscillations
2	Ch17: 9P, 21P, 36E; Ch18: 36P, 49P	waves; sound waves
3	Ch19: 9P, 13E, 47P, 50E, 61P	first law of thermodynamics
4	Ch20: 11P, 17P, 33E, 47P, 61P	kinetic theory of gases
5	Ch21: 3E, 12P, 15P, 29P, 41P	second law of thermodynamics
6	Ch22: 17P, 24E; Ch23: 11P, 24P, 45E	electric charges; fields
7	Ch24: 4E, 11P, 22P, 28E, 43P	Gauss' Law
8	Ch25: 17P, 20P, 40P; Ch26: 8E, 45P	electric potential; capacitance
9	Ch29: 20E, 37P; Ch30: 9P, 23E, 47P	magnetic fields; Ampère's Law
10	problems TBA	current and resistance; circuits
11	problems TBA	Faraday's Law; Maxwell's Equations

TABLE 3: Assignments

Assignment	assigned:	due:	reading
0	Jan 4	Jan 18	Ch16, Ch17, Ch18
1	Jan 18	Jan 25	Ch19
2	Jan 25	Feb 1	Ch20
3	Feb 1	Feb 8	Ch21
4	Feb 8	Feb 15	Ch22
5	Feb 15	Mar 1	Ch23
6	Mar 1	Mar 15	Ch24, Ch25, Ch26
7	Mar 15	Mar 22	Ch27, Ch28
8	Mar 22	Apr 5	Ch29, Ch30
9	Apr 5	Apr 12	Ch31, Ch32

You may work on your assignments by yourself, or in small groups. Either way, each student is to pass in their own solutions written by hand; **photocopies will be discarded.** Groups work well when each student contributes and benefits from the collaboration equally. **If you find yourself benefiting much more than contributing, get out of the group!** Aside from annoying their colleagues, students who do little more than copy solutions worked out by others usually fail the exams and often the course.

Two copies of solutions for the assignments and practice problem sets will be maintained in the Library Reserve Reading Room (420-5549, first floor of the Library). You may borrow these for up to one hour to make copies of whatever solution sets you require.

For the exams, students are responsible for all lecture material, assignments, and practice problems, but not the labs. The midterm exam (Mar. 8) covers Chapters 16–21 while the final exam covers Chapters 22-32. Exam problems will be of the same caliber as those on the assignments.