PHYS 3700: Instructor H. Meyer Spring Semester 2008

Schedule of Class Activities

Lecture	date	Chapter	Omit Sec	Homework Problems
1	Tu 1/08	1		
2	Th 1/10	1		ch01: 1.9, 1.15, 1.25, 1.33, 1.42
3	Tu 1/15	2		
4	Th 1/17	2		ch02: 2.7, 2.21, 2.28, 2.33
5	Tu 1/22	3		ch03: 3.40, 3.46
6	Th 1/24	4		
7	Tu 1/29	4		ch04: 4.9, 4.23, 4.28
8	Th 1/31	5,6		ch05: 5.7, 5.13, 5.16
9	Tu 2/5	6		ch06: 6.8, 6.15, 6.16, 6.43, 6.48, 6.49
10	Th 2/7			Exam, Chap. 1-6
11	Tu 2/12	7		ch07: 7.11, 7.13, 7.21, 7.24, 7.34
12	Th 2/14	7		
13	Tu 2/19	7		ch07: 7.36, 7.38, 7.39
14	Th 2/21	7		ch07: 7.51, 7.52, 7.54
15	Tu 2/26	8		
16	Th 2/28	8		ch08: 8.1, 8.3, 8.5, 8.8
17	Tu 3/4	8		ch08: 8.18, 8.32, 8.42,
				Withdrawal Deadline
18	Th 3/6	9		
				3/10 - 3/14 Spring Break
19	Tu 3/18	9		ch09: 9.4, 9.8, 9.9, 9.16, 9.21
20	Th 3/20			Exam, Chap. 7-9
21	Tu 3/25	10		
22	Th 3/27	10		ch10: 10.5, 10.7, 10.8, 10.18, 10.20, 10.29, 10.39
23	Tu 4/1	11		
24	Th 4/3	11		ch11: 11.1, 11.5, 11.9, 11.26, 11.28
25	Tu 4/8	12		
26	Th 4/10	12		ch12: 12.4, 12.7, 12.11, 12.22, 12.35, 12.36
27	Tu 4/15	16		ch16: 16.8, 16.25, 16.38
28	Th 4/17	18		ch18: 18.1, 18.13, 18.17, 18.22
29	Tu 4/22			Exam, Chap. 10-18
30	Th 4/24			Review
	Th 5/06			**Final Exam 8:00am-11:00am**

Course Grading:

Hourly Exams-60%, Final Exam-20%, Homework-20%

If your final numerical score is between 100 and 95.00, you will earn an A; if between 94.99 and 90.00, you will earn an A-; if between 89.99 and 86.66, you will earn a B+; if between 86.65 and 83.33, you will earn a B; if between 83.32 and 80.00, you will earn a B-; if between 79.99 and 76.66, you will earn a C+; if between 76.65 and 73.33, you will earn a C; if between 73.32 and 70.00, you will earn a C-; if between 69.99 and 60.00 you will earn a D. However, if the final class average is less than 75, the demarcations between grades may be shifted downward. However, regardless of class average, the demarcations will not be shifted upwards.

Know the rules concerning withdrawals and incompletes. They are published in the UGA Undergraduate Bulletin. Of particular importance is the following Bulletin passage concerning withdrawal:

"An undergraduate student who withdraws from a course or is withdrawn by the instructor for excessive absences prior to the midpoint of a quarter is assigned a W or WF by the instructor. A student who withdraws or is withdrawn for excessive absences after the midpoint of the quarter (date to be specified in the Schedule of Classes) is assigned a grade of WF, except in those cases in which the student is doing satisfactory work and the withdrawal is recommended by the Office of Student Affairs because of emergency or health reasons."

Homework is assigned in class. Homework solutions will be posted on the web after they have been turned in:

www.physast.uga.edu/classes/phys3700/meyer/index.html

Examinations are one hour in-class exams, except for the final, and are closed-book with a formula sheet provided by the instructor.

I don't keep formal office hours. Feel free to come by my office (Room 223B) or lab (Room 102) at anytime. If I am not around, you can try contacting me by phone (542-2020) or by email hmeyer@uga.edu.

Textbook: Modern Physics For Scientists and Engineers, 2nd edition by J.R. Taylor, C.D. Zafiratos, and M.A. Dubson, Pearson Prentice Hall

Chap. 1-2: Special Relativity
Chap. 3: Atoms
Chap. 3: Waves and Particles II
Chap. 4: Quantization of Light
Chap. 5: Quantization of Atomic Energy Levels
Chap. 6: Matter Waves
Chap. 7: Schroedinger Equation in 1D
Chap. 8: Schroedinger Equation in 3D
Chap. 9: Electron Spin
Chap. 10: Multielectron Atoms
Chap. 11: Atomic Transitions and Radiation
Chap. 12: Molecules
Chap. 16: The Structure of Atomic Nuclei
Chap. 18: Elementary Particles

The purpose of the course is to introduce the student to a wide range of physics principles developed in the past century providing the student with a solid understanding of the fundamental ideas upon which modern physics concepts are built. In the first part of the class we study the various aspects of the theory of relativity. Next, we investigate the particle aspect of electromagnetic radiation. These concepts are extended towards postulating wavelike properties for particles. The microscopic description of particles is first developed for simple bound systems like particle in the box and the harmonic oscillator, and simple scattering systems introducing the phenomenon of tunneling. These concepts are extended towards the description of the H-atom. Finally, spin is introduced allowing us to understand in principle the energy level structure of atoms, molecules and solids. We end the class with a brief introduction to nuclear and high energy physics.