

# PHY 113 - PRINCIPLES OF PHYSICS - SUMMER 2006

**CLASS TIMES:** 9:00 AM-12:00 PM M, Tu, W, Th #218 Fawcett - Meets July 27 - August 17

**INSTRUCTOR:** Dr. Thomas E. Skinner Office: #263 Fawcett x4549  
Office Hours: 8:15-8:45 AM M, Tu, W, Th, and after lecture

**TEXTBOOK:** *Physics - Principles with Applications, Sixth Edition*, Douglas C. Giancoli. (One copy is on reserve in the library.)

**CLASS MEETINGS:** The readings for each class meeting are listed in the schedule and I will assume that you have read them before class. Typically half of the class time will be devoted to a review of the highlights from the readings and half will be devoted to working through the homework and study guides.

**HOMEWORK:** Daily homework assignments are listed in the schedule. The problems cover material that will be discussed in class, so you are required to work on them *before* having the benefit of any lectures on the material. Your solutions, which should be neatly written to carefully show how you arrived at your results, will be submitted at the start of class. They will be assigned a + (good), √ (satisfactory), or - (poor) and returned during class, at which time we will work through the homework in detail. The goal is to have you as familiar as possible with the material before we discuss it in class, to increase your chances of comprehension and retention. The scores on the homework will be used only for cases where the average test score for an individual at the end of the course is on the borderline between two grades.

**LABORATORY:** Concurrent registration in PHY 103 is required. See Mr. William Wagner, Laboratory Director, (#239 F) about problems related to the laboratory class.

**FREE HELP ROOM:** Available in F213A, M-Th, 2-5 PM.

**QUIZZES:** Eight 10-minute quizzes are scheduled as a gauge of student progress leading up to the exams. The two lowest quiz scores will be dropped and the remaining scores scaled to a total of 100 points.

**EXAMINATIONS:** Three hour-long, multiple-choice exams will be administered as listed in the schedule. The third exam will be administered during the first hour of the final exam period. Questions will be based on the material in the assigned sections of the textbook, in the lectures, in the study guides, and in the homework assignments. The subject matter of each of these exams is listed according to the lecture class in which the topics are scheduled.

You will receive a grade of zero for any scheduled exam that you miss. An optional hour-long make-up exam on the same material as the first two hourly exams will be administered during the second hour of the final exam period. Your score on this exam will replace one lower score (or one zero score) on the first or second hourly exam. Anyone may take this make-up exam. There is no make-up exam for the third in-depth exam or for the make-up exam.

On days when exams are scheduled, the exam will be administered after a brief review of the daily assignment submitted for grading. After the exam, the normal class will continue.

<b>GRADING:</b>	Three In-Depth Exams	300 points max			
	Quizzes		<u>100</u>	“	“
	Total Score		400 points max		

100% --- **A** --- 88% --- **B** --- 75% --- **C** --- 62% --- **D** --- 50% --- **F** -- 0

**SCHEDULE:** (Ch. = chapter, Sec. = section, App. = appendix, Q = question, P = problem)

<b>DATE</b>	<b>CLASS</b>	
7/27 Thur.	Sec. 20.1-4 Magnetic Fields; Forces on Electric Charges in Magnetic Fields Sec. 20.11 Application: Mass Spectrometer	
7/31 Mon.	QUIZ Sec. 20.5-7 Magnetic Fields due to Electric Currents Sec. 20.9, 10 Torque on a Current Loop; Applications: Galvanometers, Motors	
8/1 Tues.	QUIZ Sec. 21.1-8 Electromagnetic Induction and Faraday's Law	
8/2 Wed.	QUIZ Sec. 22.1-7 Electromagnetic Waves Sec. 23.1-3 Images in Mirrors	
8/3 Thur.	EXAM Sec. 23.4-6,10 Lenses	
8/7 Mon.	QUIZ Sec. 23.7-9 Ray Tracing; Lens Equation	
8/8 Tues.	QUIZ Sec. 24.1, 3-6, 8, 10 Diffraction and Interference of Waves	
8/9 Wed.	QUIZ Sec. 25.1-3, 6, 7 Optical Instruments Sec. 26.10 Einstein Mass/Energy Relation	
8/10 Thur.	EXAM Sec 27.1-4 Early Quantum Theory: Particle Nature of Light Sec. 27.6-8 Wave Nature of Matter	
8/14 Mon.	QUIZ Sec. 30.1-3 Structure/Properties of the Nucleus Binding Energy and Nuclear Forces; Radioactivity	
8/15 Tues.	Sec. 30.4-11, 13 Nuclear Decay; Half-Life and Decay Rates	
8/16 Wed.	QUIZ Sec. 31.1-5 Nuclear Energy: Effects and Uses of Radiation	
8/17 Thur.	EXAM 2 <sup>nd</sup> Half of class: Make-up Exam (optional)	

Any necessary additions, deletions, and modifications to the syllabus will be announced in lecture.