

COURSE SYLLABUS: Physics 1404-001, Fall 2008, “General Physics II”
MWF 12:00-11:50, Science Room 007

Instructor: Roger L. Lichti
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Office hours: TR 10:00-12:00, Rm 19 Science Building,

Course materials:

Textbook: “Physics”, 6th edition by D. C. Giancoli
Lab Manual for Physics 1404

Your own notes from lectures: a good set of notes may be your most valuable resource for this course.

Learning Objectives: Students in this course will

- Apply physical principles and the associated math to a wide range of physical situations
- Model electric and magnetic fields and the related forces on charged objects
- Analyze simple electrical circuits to determine electrical current and power
- Examine the geometric optics of lenses and mirrors, ray tracing, and image formation
- Get a brief exposure to topics in modern physics and the universality of physical laws

Exams and Grades: Three hour examinations 15% each; final examination 2x15% (lowest test grade dropped), homework based quizzes 20%, laboratory 20% **Scale: 100-A-86-B-74-C-62-D-50-F-0**

Attendance: Regular attendance is expected. If a student has to miss a class for an official University event the instructor should be notified in advance. It is best to notify the instructor as soon as possible when a class is missed due to an emergency or illness. All students are expected to assist in maintaining a classroom environment that is conducive to learning and to avoid any distractive behavior.

The examinations cover the material from class, your lecture notes, and assigned homework, as well as lab exercises and any demonstrations. The examinations will be closed book, without access to course notes except that a 3”x5” note card will be allowed.

Make-up examinations will not be given. In a serious emergency, please contact your instructor as soon as possible. Documentation may be requested if special arrangements for dealing with the missed grade are required. Normally a missed exam will constitute the grade to be dropped.

Homework is assigned but will not be collected or graded. However, a weekly quiz and at least one problem on each hour exam will come directly from the assigned homework. Even though you may benefit from working in a group, make sure that you actually do the homework yourself. Grades on exams strongly reflect how well you can do homework problems on your own.

Advice: Spend at least **10 hours** outside of class each week on the lecture material. (The laboratory is extra.) If you ignore this, you will almost certainly receive a lower grade than you are capable of obtaining. Spend this time studying the text and your **lecture notes** and working as many problems as possible, not just those assigned. Always try to understand the physical principles and apply them to a specific situation rather than memorizing results. Study the new material to be covered before each class period.

Learning Assessment: Certain problems on the final exam will explicitly require facility with the course objectives and be used as learning assessment tools. Pre- and post-tests are administered as a general assessment tool for this course but are not directly correlated with individual students.

Exam Security: The examinations are unique to this semester and are not to be reproduced or distributed. Do not be misled by exploitive businesses who claim that their materials substitute for proper preparation.

Disability: Any student, who because of a disabling condition may require some special arrangements in order to meet course requirements, should contact the instructor as soon as possible so that accommodations can be made. Appropriate documentation must be presented from the Dean of Student’s office.

Course Schedule: Phys 1404-001, Fall 2008

Week of	Topic	Chpt: Assigned Homework
Aug 25	Charge, Coulomb Forces, Electric Fields	16: Q 2, 3, 12, 15; P 1, 5, 8, 12, 18, 28, 36
Sept 1	Electric Potential Difference, Capacitance, Energy	17: Q 2, 9, 10; P 1, 12, 14, 17, 31, 42, 46
Sept 8	Electric Currents, Ohm's Law, Power	18: Q 1, 7, 11, 18; P 2, 8, 9, 12, 30, 46
Sept 15	DC Circuits, Kirchhoff's Rules	19: Q 3, 8, 12, 14; P 3, 8, 18, 23, 26, 50
Sept 22	EXAM I, Magnetic Fields and Forces	20: Q 3, 6, 14, 21; P 3, 10, 11, 20, 27, 40
Sept 29	Electromagnetic Induction, Faraday's Law	21: Q 2, 8, 18; P 1, 4, 6, 30, 34
Oct 6	Electromagnetic Waves and Light	22: Q 1, 5, 7; P 3, 8, 12, 13, 37
	Geometric Optics, Lenses, Mirrors	23: Q 7, 9, 18; P 1, 8, 24, 31, 39, 47
Oct 13	Light as Waves, Diffraction, Interference	24: Q 6, 12, 17; P 5, 16, 31, 39
Oct 20	EXAM II, Optical Instruments	25: Q 3, 6; P 4, 12, 27, 32, 51
Oct 27	Special Relativity	26: Q 9, 15, 19; P 3, 10, 14, 18, 27, 45
Nov 3	Early Quantum Theory, Bohr's Atom Model	27: Q 2, 11, 22; P 6, 17, 35, 42, 58
Nov 10	Quantum Mechanics, Uncertainty Principle	28: Q 4, 13, 17; P 1, 7, 18, 25, 48
Nov 17	EXAM III Nuclear Physics, Radioactivity	30: Q 2, 14; P 6, 23, 56
	Nuclear Energy, Radiation Effects and Uses	31: Q 18, 21; P 4, 22, 42
Nov 24	Elementary Particles, Particle Accelerators	32: P 3, 12, 19, 47
Dec 1	Astrophysics and Cosmology	33: Q 2, 12; P 7, 9

FINAL EXAM: Wed Dec 10 10:30 – 1:00 (for Section 001, MWF 12:00 meeting time)