

COURSE SYLLABUS: Physics 1404-001, Spring 2009, General Physics II
MWF 3:00-3:50 pm, Science Room 007

Instructor: Roger L. Lichti
Rm 19 Science Building,

Office hours: Daily 10:00-11:30, or check ahead
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Course materials:

Textbook: Physics, 6th edition by D. C. Giancoli

Lab Manual for Physics 1404

Your 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 can actually work each problem. Grades on exams strongly reflect how well you can do homework problems *on your own*. One prob/week graded for **extra credit**.

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 **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 each exam will be used as learning assessment tools. Pre- and post-tests are administered as general assessment for this course but will not be directly correlated with individual students as part of the course grade.

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: Physics 1404-001, Spring 2009

Week of	Topic (Coverage begins in this week)	Chpt: Assigned Problems (base for Quiz)
Jan 5	Charge, Coulomb Forces, Electric Fields	16: Q 3, 12, 15; P 1, 8, 12, 18, 28, 36,41
Jan 12	Electric Potential Difference, Capacitance	17: Q 2, 9, 13; P 4, 12, 15, 19, 31, 43, 46
Jan 19	Electric Currents, Ohm's Law, Power	18: Q 7, 11, 18; P 2, 8, 9, 12, 30, 48
Jan 26	DC Circuits, Kirchhoff's Rules	19: Q 3, 8, 14; P 3, 8, 18, 23, 25, 40, 50
Feb 2	Magnetic Fields and Forces	20: Q 3, 6, 21; P 3, 11, 14, 27, 32, 40, 49
Feb 9	EXAM I (Ch16-20): Induction, Faraday's Law	21: Q 2, 8, 17; P 1, 4, 6, 15, 30, 34
Feb 16	Electromagnetic Waves and Light	22: Q 1, 5, 7; P 3, 8, 12, 13, 37
Feb 23	Geometric Optics, Lenses, Mirrors	23: Q 7, 9, 18; P 1, 11, 24, 31, 39, 47, 53
Mar 2	Light as Waves, Diffraction, Interference	24: Q 6, 17; P 3, 5, 16, 21, 31, 39
Mar 9	EXAM II (ch 21-25), Optical Instruments	25: Q 3, 6; P 4, 12, 27, 34, 51
Mar 16	SPRING BREAK	
Mar 23	Special Relativity	26: Q 9, 15, 19; P 3, 10, 14, 18, 27, 36, 45
Mar 23	Early Quantum Theory, Bohr's Atom Model	27: Q 2, 11, 22; P 6, 17, 35, 42, 58
Mar 30	Quantum Mechanics, Uncertainty Principle	28: Q 4, 13, 17; P 1, 7, 18, 25, 48
Apr 6	Nuclear Physics, Radioactivity	30: Q 2, 14; P 6, 12, 23, 43, 56
Apr 13	Exam III (Ch 26-31), Nuclear Reactions	31: Q 18, 21; P 4, 11, 20, 22, 30, 65
Apr 20	Selected additional topics	
Apr 27	Review	

FINAL EXAM: Sat May 2 7:30 - 10:00 am (for Section 001; MWF 3:00 meeting time)

Course Website: <http://www.phys.ttu.edu/~xbrll/1404>

Or, go to the Physics departmental site and then click on courses and find Phys 1404