COURSE SYLLABUS: Physics 1404-001, Spring 2010, “General Physics II”
TR 12:30 – 1:50 pm, Science Room 010

Instructor: Soyeun Park  
Office hours: Daily 10:00-11:00, or check ahead  
Rm 107 Science Bldg  
Phone: 742-2264  
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Course materials:
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

Core Competency Statement: Students graduating from Texas Tech University should be able to: explain some of the major concepts in the Natural Sciences and to demonstrate an understanding of scientific approaches to problem solving, including ethics.

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Assessment</th>
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<tbody>
<tr>
<td>Describe the basis of the scientific method</td>
<td>Ungraded pre- and post-tests, guided classroom discussion, in-class exams</td>
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<tr>
<td>Distinguish between a scientific theory and speculation</td>
<td>Ungraded pre- and post-tests, guided classroom discussion, in-class exams</td>
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<tr>
<td>Quantitative understanding of energy and motion</td>
<td>Guided classroom discussions, lab exercises, homework, in-class exams</td>
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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 conductive to learning and to avoid any distractive behavior. For each recorded unexcused absence, -1% taken off the course total.

The examinations cover the material from class, your lecture notes, and assigned homework, as well as lab exercises. The examinations will be closed book, without access to course notes, except that a 3x5 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 unless on official TTU event.
Homework is assigned but will not be collected or graded. However, a weekly quiz and perhaps a 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. The extra credit will be +10% of homework.

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 in the labs as a general assessment tool 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.

The tentative schedule is attached as a separate page.

Assigned problems (base for Quiz): Physics 1404-001, Spring 2010

Ch 16: Q 3, 5, 17; P 3, 8, 12, 19, 28, 35, 41
Ch 17: Q 3, 7, 13; P 3, 13, 14, 19, 33, 43, 46
Ch 18: Q 5, 11, 19; P 1, 6, 9, 13, 31, 47
Ch 19: Q 4, 8, 14; P 2, 7, 18, 24, 25, 39, 50
Ch 20: Q 2, 6, 22; P 2, 11, 14, 26, 32, 39, 48
Ch 21: Q 2, 7, 17; P 2, 5, 6, 15, 31, 34
Ch 22: Q 1, 6, 7; P 3, 7, 11, 13, 37
Ch 23: Q 7, 10, 18; P 1, 12, 24, 31, 38, 47, 52
Ch 24: Q 7, 17; P 4, 5, 16, 20, 32, 39
Ch 26: Q 9, 15, 19; P 3, 10, 14, 19, 26, 36
Ch 27: Q 2, 11, 22; P 6, 17, 42, 58

FINAL EXAM: Sat May 8 10:30 – 1:00 pm (for Section 001; TR 12:30 meeting time)

Note that sections marked as optional (*) in the text will not be covered on any of the exams.