

EASTERN NAZARENE COLLEGE

PY 202/202L General Physics with Laboratory

Spring 2009

INSTRUCTOR: John U. Free, john.u.free@enc.edu

HOMEWORK SESSION LEADERS: Jon Sailbury, jonathan.b.salisbury@enc.edu

HOMEWORK GRADERS: Mastering Physics and Jon

LABORATORY ASSISTANTS: Sean Reese, sean.b.reese@enc.edu

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**Tell me and I'll forget;
show me and I may remember;
involve me and I will understand.
- CHINESE PROVERB**

OVERVIEW:

Physics is the study of the physical universe from both the microscopic and macroscopic vantage points. It ultimately seeks an explanation of the nature of matter and its interactions. Like many other disciplines, Physics is composed of interacting and overlapping topics (e.g., optics, thermodynamics, and mechanics). This course is designed as a survey of the whole of Physics and will seek to expose a common thread running throughout apparently disparate topics. The major topics covered this term are: **electricity and magnetism, circuit theory, optics, and modern physics, atomic, nuclear, and particle physics.**

OBJECTIVES:

- * to see "grand connections" among the various topics in physics.
- * to learn techniques of problem solving in the physical sciences.
- * to gain skills in the physical laboratory.

TEXT(S):

Physics for Scientists and Engineers, Randall Knight, Pearson Addison Wesley, 2nd ed., 2008.

Student Workbook, Randall Knight, Pearson Addison Wesley, 2nd edition, 2008.

Laboratory Study Guide - available in the Physics Office, 162 Old Colony.

OFFICE HOURS:

Office hours this term will be Monday and Wednesday 1:30-3:00; Tuesday and Thursday by appointment. Feel free to stop in anytime I am in the office (Shrader Room 17) or make an appointment with me, john.u.free@enc.edu or with the departmental assistant, Daniel Messia, daniel.j.messia@enc.edu. I may try to set up a Google calendar to schedule appointments.

GRADING:

Your grade will be computed as follows:

Class grade

exams	- 35%	homework	- 30%
quizzes/attendance	- 20%	final	- 15%

Lab grade

prelab or postlab quiz	- 20%	laboratory	- 80%
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COURSE WEB PAGE

There is a course web page linked to my home page located at enc.edu/~john.u.free. Here you will find a link to the course web page under PY 202 General Physics II. You should find all the material needed for the course: syllabus, exam study guides, solution to practice problems, workbook solutions, old exams. I will also place the Power Point lectures on the web page.

DAILY QUIZZES:

Each class period we will start with a 5 to 10 minute quiz. The class quizzes are designed to help you prepare for class and self evaluate your understanding of the material. To prepare for the daily quizzes you should read the text section assigned on the daily schedule. We will use TurningPoint Technology's audience response system that electronically allows you to take part in the lecture by responding to interactive questions. The **lowest three** quizzes will be dropped.

ATTENDANCE:

Regular attendance is expected. Laxity in this category will negatively affect your grade through the daily quizzes using the TurningPoint Technology's audience response system.

HOMEWORK:

Homework is assigned for each class and can be found on the web at WebAssign (www.webassign.com/). Since assignments are published well before their due date, there is **no excuse for late homework**. Assignments are due **the next class after they are assigned**. For example homework assigned on Monday is due on Wednesday. On exam days the homework is due the next class following the exam. Again this semester we will use the Internet and WebAssign (www.webassign.com/) to submit and grade your homework. All assigned homework will be submitted and graded by WebAssign.

There are times in the semester when this policy will be a hardship so there is a "grace period". **Six times during the semester you can turn in a class assignment the next class day after it is due without a penalty. Homework will not be accepted after two class days. All extensions must be requested from Mastering Physics using the extension option.**

PRACTICE PROBLEMS:

With each homework assignment you have three or four practice problems. These problems are similar to the homework problems but not graded. Working these problems will help you prepare for the homework and exam. You will find the solutions for the practice problems on the course web page.

EXAMS:

There will be three (3) exams throughout the term. The exam will consist of two parts. The first part will be **conceptual** multiple choice questions and **conceptual** short answer questions. The second part will be **problems**. You will find the three Exam Study Guides on the course web page. Exam dates appear on the daily class schedule below.

FINAL EXAM:

The final exam is scheduled for Tuesday, May 15 at 2:00 pm in S-11. The exam is a multiple choice exam and covers material studied throughout the semester.

PROBLEM SOLVING SESSIONS:

You are encouraged to attend the Problem Solving Sessions each week. The sessions are Sunday, Tuesday, and Thursday evenings at 7 pm. The sessions will be totally devoted to problem solving. *To get maximal benefit from these sessions you should attempt to solve the homework problems before coming to the sessions.* In fact, the instructor will not help you unless you have attempted the problem before the session.

LABORATORY:

Laboratory exercises are an integral part of General Physics II and must be taken concurrently. The purpose of the physics laboratory is to allow the student to examine first-hand the concepts of the classroom and to reinforce the empirical nature of physics. Labs are held Thursday and Friday and start at 1:45 and 2:10. Each section will have a lab assistant who will have control over the operation and grading of the lab.

DISSABILITY:

Any student with a documented disability needing academic adjustments or accommodations is required to notify me during the first two week of the course. All discussions will remain confidential.

HONOR CODE:

You are required to submit work that is only yours unless you indicate otherwise, and permission from the instructor is granted. It is perfectly acceptable to work in groups on homework, but you must *not* simply copy work from someone else. If you copy work, or submit work that is not your own, you will automatically fail the course.