PHY 1051G–001: Spring 2007

Physics of the Modern World

Meeting Time: T R 10:00–11:15 AM  
Location: PHYS 2153

Instructor: Ms. Cherie Lehman  
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Office Hours: M: 10:00 AM - 12:00 PM  
URL: http://ux1.eiu.edu/~cblehman  
T: 2:00 PM - 3:00 PM  
or by appointment

Course Content

This is a one-semester, three-semester hour introductory course in modern physics. It will introduce selected topics from post 19th century physics such as the particle/wave duality of matter and light, atomic and nuclear physics, the Heisenberg uncertainty principle, general and special relativity, and cosmology.

The nature of the course is to focus on the conceptual understanding of physics. As one of the general science education courses, it will provide you with an opportunity to enhance the way you see the physical world and to understand how everything in nature is connected. Mathematics will be kept at the algebra level, and some simple equations will be used as guides to thinking.

Course Structure

Interactive lectures will combine presentation of information with demonstrations and concept tests. Each concept test has the following general format:
(1) Question posed ~ 1 min.
(2) Students given time to think ~1 min.
(3) Students record individual answers
(4) Students convince their neighbors (peer instruction) 1–2 min.
(5) Students record revised answers
(6) Feedback to teacher & Tally of answers
(7) Discussion of correct answer 1–2 min.

The direction of the lecture will be determined in large part by class responses to the Concept Test questions.

Textbook

Course Grading

Homework and quizzes: 30%
Hour exams: 40%
Final Exam: 30%
Total: 100%

Grades will be determined according to the following scale:
A: 90%–100%
B: 80%–89%
C: 70%–79%
D: 60%–69%
F: below 60%

Homework and Quizzes

There will be online homework assignments associated with each chapter. You will need to use your course id number for these assignments. For some units, these assignments will be from the Minds On Physics web site. The Minds On Physics assignments will require that you submit written success codes to me on the due date. Other online assignments will be completed online and will require no written submission. Occasionally quizzes will be given to monitor your progress. Makeup quizzes will NOT be given.

Hour Exams

A total of four, hour exams will be given. Each hour exam will be composed of both multiple choice and free response items. The lowest hour exam score will be dropped, and your average hour exam score will be calculated from the remaining three exams. No make-up hour exams will be given. If you miss an hour exam, then that score will be the one that is dropped.

Final Exam

A comprehensive final exam will be given at the end of the course. The final exam will be similar in format to the hour exams.