PHYS 112: Basic Physics II

Lecture: M, W, Th 9-11:15am, Physics 201

Dr. Susan Hoban
Email through Blackboard!
Office hours: Physics 226, After class

Syllabus

Prerequisites: PHYS 111

Learning Objectives: Basics Physics II is an algebra-based course for non-physical science majors. This class covers Oscillations and Waves, Optics, Electricity and Magnetism and Modern Physics, highlighting biological applications. This course follows Basic Physics I (PHYS 111).

Textbook: *College Physics: A Strategic Approach* by Knight, Jones, and Field, 2nd ed., bundled with Mastering Physics (MP) (or purchase MP access online).

Registering for Mastering Physics: Go to http://www.masteringphysics.com/ and click *Register New Students*, and give your access code (inside your MP package.) The course ID is HOBANPHYS112SU2014. If you registered for MP before, login with your username and password. Due dates for homeworks are noted in bold in the schedule as **MP01**, **MP02**, etc.

Blackboard: Log on to myUMBC, click the *Blackboard* tab and then click *PHYS 112 Basic Physics II* in the *My Courses* area for access to course materials, assignments, your grades, helpful advice, and announcements.

Grading

Exams 50% (6 exams): During the summer session, you are introduced to a large volume of material in a short period of time. Giving exams more frequently than in the fall/spring semesters accomplishes two goals: 1) Encourages students to stay on top of the homework so they are prepared for the exam, and 2) Spreads the grade out over several exams, so that the grade does not depend so heavily on any given exam. You may use a scientific, non-graphing calculator during exams.

Labs 20% (12 labs): Your grade for the lab comprises a prelab (20%), participation and completion of lab activity in the section for which you registered (40%) and the lab homework, due at the beginning of the next lab (40%).

Homework 30%: Doing the homework is how you will learn the material in this course. The homework is assigned online through Mastering Physics (HOBANPHYS112SU2014). The due dates for each assignment (MP01 through MP14) are given in Mastering Physics as well as in the schedule below.

Making up work

Words to the wise: During summer sessions, it is more important than ever to keep up with the homework. Our time together is very limited, and we must cover all of the material. If you start to fall behind, catching up will be much more difficult than during a regular semester.

If you must miss an exam, you must contact Dr. Hoban prior to the start of the exam. Emails are timestamped, or you may leave a message in the Physics office: 410-455-2513.

Arrangements for makeup exams will be made only for those who adhere to this policy.

If you must miss a lab, make arrangements for a makeup with your lab TA. Makeup labs will be accommodated for UMBC sanctioned activities only. No makeup work will be accepted after 8/14.

Schedule

Please read the section in your textbook before coming to class on the date indicated. The sections are listed by Chapter and Section, i.e., 20.1 is Chapter 20, Section 1. The sections covered by the exams are in parentheses.

Day ⇨ ⇩Week	**MON**	**Lab**	**WED**	**THU**	**Lab**
1	20.1-7	1: Intro to static electricity and electric current	21.1-6 **MP01**	21.7-9 **MP02** Exam 1 (20, 21.1-6)	2: A model for circuits I: electric current
2	22.1-6 **MP03**	3: A model for circuits II: Voltage and Ohm's Law	23.1-8 **MP04**	26.3,4 **MP05** Exam 2 (21.7-9,22,23)	4: A model for circuits III: Capacitors and RC circuits
3	24.1-8 **MP06**	5: Modelling the action potential I	25.1-8 **MP07**	15.1-3 **MP08** Exam 3 (24, 25)	6: Modelling the action potential II
4	15.4-7 **MP09**	7: Introduction to light	16.1-7 **MP10**	17.1-6 **MP11** Exam 4 (15, 16)	8: Wave model of light: interference and diffraction
5	18.1-7 **MP12**	9: Ray model of light: Reflection and refraction	19.1-7 **MP13**	28.1-8 MP14 Exam 5 (17, 18, 19)	10: Ray model of light: lenses
6	29.1-9 **MP15**	11: Modelling the human eye	30.1-7 **MP16**	MP17 Exam 6 (28, 29, 30)	12: Half-life and exponential decay

Getting Help
Dr. Hoban will be available in the Physics Tutorial Center (Physics 226) M, W, & Th from 1130 to 1230. You may make separate arrangements by contacting Dr. Hoban through Blackboard. Your lab TAs are an additional resource for getting help.

Academic integrity
All instances of academic misconduct will be addressed according to the UMBC Policy on Academic Integrity (http://www.umbc.edu/integrity/students.html). Examples include attempting to make use of disallowed materials on exams, attempting to communicate with anyone other than the instructor, TA, or team member (when appropriate) during an exam, altering graded work and submitting it for regrading, asking someone else to take an exam in your place, copying or paraphrasing another's work on homework, asking someone else to do homework and representing it as your own, and permitting or assisting another student to carry out any of the above. Penalties range from a grade of 0 on a homework or exam to an F in the course (at the professor's discretion), and from denotation of academic misconduct on the transcript to expulsion (as determined by official hearing of the Academic Conduct Committee.)