

COURSE SYLLABUS

Physics 242 - University Physics II

Section No.: 001
Semester: Spring 2004
Lecture: MWF 1:00 - 1:50 pm, Harman 232
Laboratory: R 8:00 - 10:50 am, Harman 232
Textbook: Physics for Scientists and Engineers 5th Ed., by Serway
Credit Hours: 4
Prerequisite: Physics 241

Course Description:

Three lectures. One three-hour lecture/lab. Calculus-based general physics covering waves, thermodynamics, electricity and magnetism, and light,. Intended for those students majoring in science, mathematics, or engineering.

Course Objectives:

Students completing the course will be prepared to demonstrate a knowledge of the basic concepts and an ability to use mathematical techniques to solve relatively simple problems in the following areas of physics: vibrations and waves, sound, heat and thermodynamics, electricity and magnetism, and optics. Students will also learn to convert statements of physical laws and concepts into mathematical expressions and vice-versa.

In the laboratory portion of the course, students will learn the scientific methods of conducting experiments, gathering and analyzing data, and reporting conclusions.

Course Contents:

1. Wave Motion
2. Sound Waves
3. Superposition and Standing waves
4. Temperature
5. Heat and the First Law of Thermodynamics
6. Electric Fields
7. Gauss's Law
8. Electric Potential
9. Capacitance and Dielectrics
10. Current and Resistance
11. Direct Current Circuits
12. Magnetic Fields
13. Sources of the Magnetic Field
14. Faraday's Law
15. The Nature of Light

Laboratory:

The lab meetings will be used to conduct experiments relating to the concepts covered in lectures, view videotapes on physics, and take examinations. The laboratory grade will be the average of the grades received on lab reports of the experiments conducted.

Evaluation Policy:

There will be four (4) fifty-minute exams during the semester and a comprehensive final exam which will include all subject matter covered in the course. The average of the fifty-minute exams will determine one-half (50%) of the final course grade, the final exam will determine one-fourth (25%), and the laboratory grade will determine the remaining one-fourth (25%). Letter grades will be assigned according to the following scale:

90 - 100%	A
80 - 89%	B
70 - 79%	C
60 - 69%	D
0 --59%	F

Attendance Policy:

Attendance will be checked at the beginning of each class meeting. Each student will be allowed three unexcused absences; for each unexcused absence beyond three, one point will be subtracted from the student's final numerical grade for the course.

Unexcused absences from laboratory meetings will result in a grade of zero for the lab reports of missed experiments.

ADA Statement:

It is the policy of the University of Montevallo to afford equal opportunity in education to qualified students. If you have a disability that may prevent you from meeting course requirements, contact the instructor immediately to file a **Student Disability Statement** and to develop an accommodation plan. Course requirements will not be waived but reasonable accommodations will be developed to assist you in meeting the requirements. You are expected to work with the instructor and the Office of Student Support Services to develop and implement a reasonable plan.