

PH115 Interim, 2004

COURSE SYLLABUS

**PH115. Descriptive Physics for Non-Science Majors. 4 hours credit.
Interim, 2004**

Instructor: Dr. Stan Jones
206 Gallalee 348-5050
Office Hours: Any afternoon
stjones@bama.ua.edu

Textbook: Conceptual Physics, ninth edition, by Paul Hewitt

Course Outline

<u>Day</u>	<u>Chapters/Topics</u>
May 17	2 Newton's First Law Force Concept Inventory
May 18	3 Motion
May 19	4,5 Newton's Second and Third Laws
May 20	7 Energy , Projects
May 21	Review, FCI, Projects, Exam
May 24	No class; read chapters 19, 20.
May 25	19,20 Waves , Sound
May 26	20,21 Sound , Musical Sounds
May 27	26, 27 Light , Color , Projects
May 28	Review, Projects, Exam
May 31	No class; Work on Projects, read Ch. 22
June 1	28 Lenses and Mirrors
June 2	22 Electrostatics
June 3	23 Electric Current , Projects
June 4	Review, Projects, Exam

[Homework assignments](#)

[Review](#): an old exam or two to help you prepare for the first one.

[Review #2](#).

[Review 3](#).

Course Description:

This is a course in elementary concepts of physics, designed for non-science majors. Topics covered include matter, energy, forces, motion, light, sound, electricity and magnetism. Emphasis is on concepts and on activities that illustrate these concepts. Prerequisites: none.

Course Objectives:

Upon completion of the course, the student should have a basic understanding of fundamental physical principles, how these principles apply to everyday situations, and how one can demonstrate the principles experimentally. Students will also have some appreciation for the historical development of physical principles.

Required Text:

Hewitt, Paul G. *Conceptual Physics*, ninth edition.

Assignments

1. Daily homework assignments will be made from the text.
2. Three projects will be completed, written up, and presented in class. These projects will illustrate principles of physics at a level appropriate for the lay person.
3. Each class period will include several activities of either a hands-on or a pencil-on mode. These will be handed in at the end of the period.
4. There will be 3 hour exams. A list of text chapters/topics will be provided.

Grading Policy

Homework	10 points
Projects	15 points
Activities	30 points
<u>Hour Exams</u>	<u>45 points</u>
 Total	 100 points

Attendance/Make-up Policy

- Students are expected to attend all class sessions. Excessive absences will lead to a penalty in the final grade for PH110.

If an exam is missed, it is the student's responsibility to contact me as soon as possible. In the event that the absence was for a valid reason, the remainder of the course will count proportionately more. No makeup exams will be given.

Academic Misconduct Policy

All acts of dishonesty in any work constitute academic misconduct. The Academic Misconduct Disciplinary Policy will be followed in the event of academic misconduct.

To request disability accommodations, please contact the Office of Disability Services (348-4285). After initial arrangements are made with that office, contact your professor.

PH115 Class Projects

Students will complete and turn in a total of 3 projects. One project will be due on Thursday of each week. Students will work in groups of two. Each project will consist of some type of activity which illustrates a principle of physics at a level understandable by the lay person. On Thursday and Friday of each week, students will present their projects to the rest of the class. Each project is to be written up and copies provided to both the professor and the rest of the class.

Resources for choosing projects are available in the Curriculum Room of the Education Library, in my office (some), in journals such as *The Physics Teacher* in the Science and Engineering Library, and possibly elsewhere. You are not expected to invent a new project. However, projects will be graded on the basis of originality and complexity as well as the accuracy of the physics. So choose wisely!

Each project write-up should include at least the following:

1. Concept of physics to be illustrated. This should be a written explanation of the concept, indicating that you understand the concept itself.
2. A description of the project itself, and of how the project illustrates this concept. Again, this should be a narrative, not just a line or two.
3. Any mathematics required.
4. Drawing or other visual aids that would be used in a classroom.
5. Materials used.
6. Typical results.