

SYLLABUS

**Physics for Scientists & Engineers I
PHY 2049, Section 3
Spring Semester, 2010
Tu-Th 9:00 to 10:15 am, MAP 359**

Instructor: Dr. Beatriz Roldán Cuenya

Office Hours: Tu/Th: 10:30 am-12:00 pm

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PHY 2049 is the second of a two-semester general physics course. This is a 3 credit hour course.

Textbook: *University Physics*, Vol. 2 by Young & Freedman, 12th ed.

A web-assign homework access card (code) is provided when the students buy the textbook. Alternatively, it can be also purchased separately at the UCF bookstore or online (<https://www.webassign.net/>).

Course Objectives and Expectations:

The primary objective of the course is to prepare students with fundamental knowledge of physics and obtain skills necessary for higher-level science and engineering courses.

The course is quite intense, and it will require you to invest considerable time in study and problem solving. To obtain maximum benefit from this course you should read the material before and after it is covered in class. It is very difficult to catch up if you fall behind. Class attendance is very important since some of the exam questions will be drawn from the class lectures, demonstrations and discussions.

Pre-requisites:

An adequate preparation in basic mathematics is essential for a proper understanding of the course material. Basic concepts from algebra, trigonometry, differential and integral calculus will be used.

Course Structure:

- **Lectures:** Tuesday/Thursday.
- **Homework assignments:** Thursdays. Homework assignments will be given every week (WEB-ASSIGN). It is very important to solve these problems, since they constitute the primary means for learning the material for the exams.
- **Quizzes:** Twice per month. They will be short, one to four questions (10 minutes). There will be no make-up quizzes.
- **Mid-term Exams:** There will be two written “in-class” exams (about 1h 15 min minutes each). They will contain 4-5 problems similar in difficulty to those given as homework or the ones solved by me in class.

- **Final Exam:** approx. 6 problems. All examinations are without books.

Grades:

The final grade will be calculated according to the following scheme.

Homework (WebAssign) → 15%

Quizzes → 10%

Midterms (two) → 45%

Final → 30%

Grading Scale:

A	85-100
B	75-84
C	60-74
D	50-59
F	0-49

Grades are not given out in response to e-mail messages or telephone calls.

+, - grades will be given.

Policies:

1. Questions regarding returned quizzes and tests must be brought to the instructor's attention within two days.
2. Make-up tests are given only to students who have to be out of town on university-sponsored activities. Prior permission and proper documentation will be required. Exceptions are to be made for medical and family emergencies, at the discretion of the instructor.
3. Scientific calculators with trigonometric capabilities are allowed in quizzes and tests. However, calculators with preprogrammed physics information are not allowed. Violation of this rule might result in automatic failure in the course and disciplinary proceedings might be initiated.
4. Picture ID is required in all tests, quizzes and final exam.

Important Dates:

- Classes begin → January 12
- Withdrawal Deadline → March 5
- Classes end → April 22
- Holidays → Martin Luther King: January 18
Spring Break: March 8-13

Course Tentative Schedule:

Book Chapter	Topic	Date
Chapter 21	Electric Charge and Electric Field	Jan 12, 14, 19
Chapter 22	Gauss Law	Jan 21, 26
Chapter 23	Electric Potential	Jan 28, Feb 2
Chapter 24	Capacitance and Dielectrics	Feb 4, 9
Exam #1		Feb 11
Chapter 25	Current, Resistance and Electromotive force	Feb 16, 18
Chapter 26	Direct-Current Circuits	Feb 23, 25, March 2
Chapter 27	Magnetic Field and Magnetic Forces	March 4, 16
Exam #2		March 18
Chapter 28	Sources of Magnetic Field	March 23, 25
Chapter 29	Electromagnetic Induction	March 30, April 1
Chapter 30	Inductance	April 6, 8
Chapter 31	Alternating Current	April 13, 15
Chapter 32	Electromagnetic Waves	April 20, 22
Final Exam (MAP 359)		April 27 (7-9:50 am)