Physics 270

Sections 0101-0106

General Physics:

Electrodynamics, Light, Relativity and Modern Physics

Syllabus

Spring 2015

Course description: PHYSICS 270 is the third semester of a three-semester calculus-based general physics course designed primarily for engineering students. Electrodynamics, Maxwell's equations and electromagnetic waves, geometrical optics, interference, diffraction, special theory of relativity, and modern physics.

Pre-requisites PHYS 161, PHYS 260-261

Co-requisite: PHYS 271

Instructor **Dr. Sergio Picozzi**

3102 Physics Building
301 – 405 – 6088
sergio.picozzi@gmail.com *(preferred)*
spicozzi@umd.edu
Office Hours: **By appointment**

Lecture Times and Location

MWF 1:00 – 1:50pm, PHY 1412

Discussion Sessions

Discussion sessions will be conducted by the Teaching Assistants, and consist in a forum where students can ask questions about the course material and where problems will be worked out with student participation.

Teaching Assistants:

Xi Chen	daphne2012hust@gmail.com
Monica Gutierrez Galan	monicag@umd.edu
Shih-Han Hung	shung@umd.edu
Brittany Wheatley	badelew@terpmail.umd.edu

For schedules and venues of discussion sessions please consult TESTUDO.

Textbook

Required: **Physics for scientists and engineers, 3rd edition** Volumes 3, 4, 5 by Randall D. Knight (*Addison-Wesley/Pearson*). This textbook is also available as a single-volume hardcover.
In addition to the textbook, you will need a copy of the "**Physics 271 Laboratories" manual**, which is a University of Maryland custom book published by Wiley.
Note: if you want to buy a used copy of this, **it must not have been written in**!
To summarize: the required materials for PHYS 270/271 are the textbook, and the labs manual.

Lectures

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Preparation

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Laboratory (PHYS 271)

See Lab Schedule chart-PHY 3220
Lab includes experiments on mechanics, vibrations, waves, heat, electricity and magnetism. PHYS270 and PHYS271 (lab) must be taken in the same semester and the grade for the courses will be combined into a single grade for both. To pass, students must complete passing work in both PHYS270 and PHYS271.

Homework

Homework will be done through ***Mastering Physics***. Problems will be assigned from the text by the instructor.

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Why You Need to do the Homework: The principal way that you can understand Physics is by learning how to solve problems. The homework can be expected to be challenging, it counts a great deal towards your final grade and it enables you to succeed on your exams.

The plan is to assign homework sets nearly on a weekly basis. Assignments will be given well in advance of the due date. As a rule of thumb, you can expect an assignment referring to a given chapter to be due shortly after that chapter has been covered in class.

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Your class ID is: MPPICOZZI126516A

Exams

There will be three in-class midterm exams plus one cumulative final exam.

All exams are closed-book and closed-notes. On exam day, bring a pocket calculator (graphing calculators are strongly discouraged) and writing tools (pens or pencils). Paper will be provided.

Moreover, you should prepare and bring a formula sheet containing only equations and values of fundamental constants, but no problem solutions.

Late Submissions and Make-ups

Turning in late homework is not allowed under any circumstances.
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The lowest of three scores in the midterm exams will be dropped. No make-ups will be given under any circumstances. If you happen to miss one exam, due to illness or any other reason, that is the score that will be dropped. You must take the final exam in order to pass this course.

Final Grade

The semester grade is based on the LECTURE/DISCUSSION (75%), PHYS 270, and the LAB (25%), PHYS 271. A passing grade must be earned in both PHYS 270 and PHYS 271 to receive a single passing grade in the course.

Course grade break-down:

15%	Homework
40%	Midterm exams (20% each of two)
20%	Final exam
25%	Labs (PHYS 271)

The final grade will be set at the end of the semester after all work is completed. In assigning the final grade, I will be following the University of Maryland's grading policy, quoted below:

- A denotes excellent mastery of the subject and outstanding scholarship. (90-100)
- B denotes good mastery of the subject and good scholarship. (80-89)
- C denotes acceptable mastery of the subject and the usual achievement expected. (70-79)
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Students with disabilities

Accommodations will be provided to enable students with documented disabilities to participate fully in the course. Please discuss any needs with the instructor at the beginning of the semester so that appropriate arrangements can be made. ***Students who are registered with DSS, and who are planning to take examinations at DSS facilities, are required to let me have the pertinent authorization forms in editable electronic format at least one week prior to each exam date.***

University Closure

In the event of a University Closure the department will do its best to accommodate students by scheduling make-up sessions or revision of the lab schedule.

Academic Integrity

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Physics 270 Sections 0101-0106
Course Schedule
Spring 2015 --- Prof. Sergio Picozzi

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Jan 26	**Chapter 32**
Feb 2	**Chapters 32-33**
Feb 9	**Chapter 33**
Feb 16	**Chapter 34**
Feb 23	**Chapters 34-35**
Mar 2	**Chapter 35**
Mar 6	**Midterm 1**
Mar 9	**Chapter 22**
Mar 16	**SPRING BREAK**
Mar 23	**Chapter 23**
Mar 30	**Chapter 36**
Apr 6	**Chapter 36**
Apr 13	**Chapters 36-39**
Apr 15	**Midterm 2**
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May 11	**Midterm 3**

Examination Schedule

Midterm 1: Friday 6 March, Chapters 32-33-34-35
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Physics 270

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