

H.H. Stroke  
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Office hours: TBA

LECTURE: Monday, Wednesday 11:00-12:15  
Rm 421 Meyer

#### TUTORS:

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Philip J. Ponce deLeon, ppd212@nyu.edu

## V85.0082ENGINEERING PHYSICS II

Fall 2009

### Text

Giancoli: *Physics for Scientists and Engineers, 4th edition, Volume 2*

Students are expected to read the assigned sections, preferably before the lectures.

### Homework

Problems will be due Monday, following the week when assigned, by 4:30 PM in Mr. Le Page's office, Meyer Rm 424.

Homework late one week, without an extension granted **in advance** by Prof. Stroke, or without a written medical excuse, will be graded with half credit. **Problems handed in beyond this time will be recorded as zero, without exceptions.**

Students are encouraged to discuss the problems and solutions with other students, but you must hand in work that is your own and keep in mind that your personal understanding will be tested on the examinations.

Make sure that your work shows the reasoning and explanatory steps in arriving at your answers. Simply writing a "correct" answer without this has little merit. Keep this in mind for the examinations as well.

### Classroom demonstrations

Lectures will be supplemented by demonstrations. Questions relating to them will appear on the examinations.

### Examinations

There will be three examinations based on homework, book examples and exercises, demos, and other material. The final examination *is cumulative*. It is expected that the exams will be *multiple choice*. In the booklets accompanying the answer sheets show all work leading to the answer choices. A sheet providing numerical constants, formulae, etc. will be provided for all exams. **The final examination is scheduled for Monday, 21 December 2009, 10:00-11:50 in Meyer 421**

### Missed exams

If you have to miss any exam for non-medical reasons, arrangements have to be made **beforehand** with Professor Stroke. Missed exams without medical excuse or prior arrangement will receive a grade of zero.

Examination	Date	Chapters covered
1	19 Oct	21, 22, 23, 24
2	9 Nov	25, 26
3	30 Nov	27, 28

PLEASE ASK QUESTIONS DURING LECTURES AND SESSIONS!

Do not be timid: if there is something that you don't understand, many other students are having the same problem!

If there is some aspect of the pace, content, or structure of the course that you don't like, or any other feedback, please let the course instructor know as soon as possible. Some students prefer more theory, others more examples worked out. *If you wait until course evaluation forms are handed out at the end of the semester, you will only benefit next year's class at the expense of your own!*

## Help

Free, **optional**, tutoring sessions will be available. Schedules will be obtainable from Mr. W. J. Le Page, the Undergraduate Studies Administrator, in Meyer Rm 424.

## Course Grades

	percent
In-class exams	30
final exam	40
problems	30

## Syllabus and homework

Date	Chapter sections/Subjects	Problems
W 9 Sep	21.1-5 Electric charges, Coulomb's law	2, 6, 10, 18
M 14 Sep	21.6-11 Electric fields; dipoles	37, 40, 68, 76, 86
W 16 Sep	22.1-2 Electric flux; Gauss's law	6, 8, 59
M 21 Sep	22.3-4 Applications of Gauss's law	28, 45, 64, 65
W 23 Sep	23.1-5 Electric potentials	7, 11, 62
M 28 Sep	No class, Yom Kippur	
W 30 Sep	23.6-9 dipole potentials, CRT	50, 67, 80, 86
M 5 Oct	24.1-6 Capacitors, dielectrics	2, 12, 29, 35, 48, 63
W 7 Oct	25.1-6 Ohm's law, power	8, 12, 35, 44
M 12 Oct	25.7-10 AC	50, 57, 80, 94
W 14 Oct	26.1-4 DC circuits; Kirchhoff	4, 16, 19, 31
M 19 Oct	<b>Quiz 1</b>	
W 21 Oct	26.5-7 loop equations; RC circuits, meters	43, 54, 58, 71
M 26 Oct	27.1-4 magnetism	5, 9, 14, 20
W 28 Oct	27.5-9 forces, torques; atoms, nuclei	35, 47, 54, 69
M 2 Nov	28.1-5 Sources of B, Ampère	5, 16, 27, 30, 59
W 4 Nov	28.6 Biot Savart	38, 39, 40, 41, 74
M 9 Nov	<b>Quiz 2</b>	
W 11 Nov	28.7-10 magnetic materials	47, 48
M 16 Nov	29.1-5 Faraday, generators.	2, 13, 16, 24, 32, 45
W 18 Nov	29.6-8 induced emf	51, 52, 56, 74
M 23 Nov	30.1-5 inductance	2, 6, 16, 27, 31
W 25 Nov	30.6-11 LRC, resonance	37, 49, 61, 64, 70, 84
M 30 Nov	<b>Quiz 3</b>	
W 2 Dec	31.1-4 Maxwell, photons	2, 4, 6
M 7 Dec	31.5-7 waves	8, 10, 14, 18, 21
W 9 Dec	31.8-10 Poynting	23, 27, 28, 31, 35, 38, 40
M 14 Dec	Continuation and review	31.33, 60
M 21 Dec	<b>Final Examination</b> , 10:00-11:50, 421 Meyer	