

PHYS270 (S20) Electrodynamics, Light, Relativity and Modern Physics

Instructor: H.M. Milchberg, AVW 1415, milch@umd.edu (the best way to reach me is by email)

Lecture: PHY 1410, MW 5-6.15 pm

Office hours: MW 4-5 pm

Recommended reference:

University Physics-with Modern Physics (13th or 14th edition), Young and Freedman (Pearson)

Other useful reference:

Fundamentals of Physics, any edition, by Halliday, Resnick, and Walker (Wiley)

Lecture schedule

Week	Dates	Topic	Text (14 th ed.) chapters sampled
1	Jan 27 - 29	waves and superposition	15, 16
2	Feb 3 - 5	magnetic fields	27, 28
3	Feb 10 - 12	magnetic fields	27, 28
4	Feb 17 - 19	electromagnetic induction	29, 30
5	Feb 24 - 26	EM fields and waves	32
6	Mar 2 - 4	AC circuits	31
7	Mar 9	relativity	37
	Mar 11	Midterm #1, Wed. Mar. 11	
8	Mar 16 - 18	<i>Spring break</i>	
9	Mar 23 - 25	relativity	37
10	Mar 30 - 1	wave optics	33
11	Apr 6 - 8	ray optics	34
12	Apr 13 - 15	pre-quantum	38
13	Apr 20	quantization	39
	Apr 22	Midterm #2 , Wed. Apr. 24	
14	Apr 27 – Apr 29	wave functions	40
15	May 4 - 6	1D quantum mechanics	40
16	May 11 (last class)	Review session	
Final exam, location TBD: Monday, May 18, 4:00-6:00pm			

Assignments: Problem sets will be assigned approximately every 1½ weeks. Most of the problems will be from *Young and Freedman*, with a few from other sources including me. Problem sets—with solutions handwritten or typed-- are to be handed in before the lecture begins on the day they are due. Mastering Physics or other online homework sites are not used in this class.

Lecturing style, class notes, and attendance: I don't use PowerPoint slides or clickers; I write on the board. My notes are well-organized and relatively neat. The way to get the class notes is to show up for class. I do not take attendance.

ELMS: I use it to post course documents, such as the syllabus, problem sets, and solutions under the 'files' tab. I do not post grades online. If you want to keep a running tally of your grades, then come to the discussion sessions and collect your graded material.

Grade breakdown: Problem sets 20%; 2 midterm exams, each 25%; final exam 30%. Improvement is rewarded in this class: Best midterm is counted (you must do BOTH midterms). If the final exam grade is higher than the best midterm, the final exam will count for 80% of the final grade. Exam dates are shown in the table.