Course name	Physics 110B: Electricity, Magnetism, and Optics II
Meeting place, time	PSB 110, TuTh 10:00–11:45 AM
Instructor	Gey-Hong (Sam) Gweon
Office hours	Tue 2–3 PM, Wed 12:30–1:30 PM
Instructor coordinates	ISB 249, gweon@ucsc.edu, http://gweon.com
Teaching assistant	Eric Miller
TA office hours	Mon, Wed 4–5 PM
TA coordinates	ISB 329, erjmille@ucsc.edu, 9-1962
Textbook	*Introduction to Electrodynamics*, 4th ed., Griffiths
References	*Foundations of Electromagnetic Theory*, Reitz, Milford, and Christy *Classical Electrodynamics*, Jackson *Electrodynamics of Continuous Media*, Landau & Lifshitz *The Classical Theory of Fields*, Landau & Lifshitz *The Feynman Lectures on Physics*, Feynman, Leighton, and Sands http://www.feynmanlectures.caltech.edu
Course website	http://gweon.com/teaching/current

One place to remember It is the above course web site. It will be a central depository of information, and it will also host some important course activities. All information above and below will be made accessible on the course web site, with proper updates.

Email address Email communication is very important for this course. You must make sure that you are not missing any emails sent by me to your official UCSC email address. If you like to receive emails at an alternative email address of yours, you can contact me individually.

Course objectives In this course, we will learn how to apply Maxwell's equations to understand electro-magnetic and optical phenomena. The goal is to understand physical principles, not to memorize equations and not to be hindered by mathematics.

Homework Generally, homework will be due every Thursday. **Late homework is not accepted as a policy.** However, the lowest homework score will be dropped at the end of the quarter.

Evaluation This course will be evaluated based on the homework (about 30 %), the quiz (about 10 %), the midterm (about 30 %) and the final (about 30 %). The final exam will be a take-home exam and thus we will not follow the registrar schedule for the final exam.

Get help! Any one can use some help every now and then. Really! Getting no help adversely affects most students according to my observation. Getting help starts with asking questions. No question is a bad question during my lectures

or my office hours, so do not be afraid to ask any question that comes up! That is the best way that you can start helping yourself. Also, make active use of TA discussion sections or any tutoring session that may be available. The emphasis is on "active." Do not simply accept a solution; *internalize/assimilate* it. You need to chew on it, until every piece of it becomes part of you. Otherwise, you will not be helping yourself, and you may be just helping your homework score, soon to become meaningless. In short, to truly help yourself, you must *start by asking questions yourself and end by answering them yourself.* This is a rather advanced course, and so I like the pace to be slow so that students have ample chances to discuss and ask.

Academic integrity While I encourage asking for help and giving help, one should not get or give help when it is not allowed (during exams), or in ways that are not allowed (e.g., you should not copy other people's solutions for homework, quiz, etc., or let others copy yours). Likewise, you should never engage in other activities that breach the academic integrity. To assure fairness, I will be monitoring for possible activities that breach the academic integrity. If confirmed to be involved in such an activity, you will fail this course.

Emergency If highly unusual personal circumstances arise to prevent you from participating in core course activities (exam, homework, quiz, etc.), you should communicate with me as soon as you can, so that you will get the best consideration for makeup opportunities. Per the University-wide policy, I can *not* accept any "medical documentation."

Extra credits Generally speaking, if you genuinely try to learn *without* worrying much about your grade, your grade should follow. You can always do extra work and submit it for any possible extra credit.

Lecture plan The general plan is to follow the textbook. The following plan may be updated on the course web site, as we go along. One very well-known secret to success: **read before class!**

Week	Lecture	Date	Chapter	Subject
1	1, 2	Mar 31, Apr 2	8	Conservation laws
2	3, 4	Apr 7, 9	8, 9	Conservation, Electromagnetic waves
3	5, 6	Apr 14, 16	9	Electromagnetic waves
4	7, 8	Apr 21, 23	9, 10	Waves, Potentials, Fields
5	9, 10	Apr 28, 30	10, 11	Fields, Radiation
6	11, 12	May 5, 7	11	Radiation
7	13, 14	May 12, 14	11	Midterm (May 12), Radiation
8	15, 16	May 19, 21	12	Relativity
9	17, 18	Mar 26, 28	12	Relativity
10	19, 20	June 2, 4		Catch-up, Circuit theory, or ...
11		June 11		**Final exam** (take-home) due