

PHYS100C Electromagnetism III Spring 2016

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See note about e-mail conduct on page 2.

Lectures: T, Th 9:30-10:50 Mayer Hall Addition 5623

Discussion: F 11:00-11:50 Mayer Hall Addition 5623

Final: June 7th 2016, 8-10:59 am, Mayer Hall Addition 5623
Website: <http://physics.ucsd.edu/students/courses/spring2016/physics100c/>
solutions: HW, midterm, final @ <http://ted.ucsd.edu>

Materials: ***Introduction to Electrodynamics (4th edition) by Griffiths.***
As in your previous course: *Not everything you need to know is covered in class, some is left to the book.* Supplementary material: Fundamentals of Photonics, Saleh-Teich, 2007. Classical Electrodynamics, Greiner, 1998. Electromagnetic Fields and Waves, Lorrain-Corson-Lorrain, 1988. Wave propagation, Markos-Soukoulis, 2008. Photonics emphasized for EM waves.

Adds/Drops/Withdrawals: Use [TritonLink](#) to add into open sections, to waitlist a full section, or to drop the course.

Special Circumstances: You must communicate special needs, including those based on medical conditions or religious beliefs, prior to April 8th. These needs will be taken into account only after they have been discussed with the professor. Students with disabilities are given my full support as long as you work through the Office for Students with Disabilities. Excusal from an exam will be granted by the professor only if proper documentation is provided (e.g., from medical/law-enforcement professionals). No rescheduling or make-up exams are allowed, except as noted in:
<http://www.ucsd.edu/catalog/front/AcadRegu.html>

Students with disabilities: If you have been given an Authorization for Accommodation (AFA) letter from the Office of Students with Disabilities (OSD), you must provide the instructor, your TA, and the OSD Physics Department Liaison (Patti Hey, plhey@ucsd.edu) with a copy of the letter before any accommodations will be provided. All exam scheduling will be coordinated by you and the instructor, with involvement from the OSD Liaison as needed. In order to guarantee accommodations, you must follow the guidelines established by the Instructor and/or Liaison. OSD exams will run concurrently with the scheduled exam.

Aid & Collaboration: You are encouraged to work together and form discussion groups to learn thermodynamics and kinetics. However, all submitted assignments must clearly demonstrate independent effort. Collaboration or aid on quizzes and exams is strictly prohibited unless told otherwise.

Academic Integrity: DO NOT CHEAT. All submitted work must be your own. This includes all exams and in-class assignments. Please read the UCSD Policy on Integrity of Scholarship, at :

<http://senate.ucsd.edu/manual/Appendices/Appendix2.pdf>

See page 3 of this syllabus for excerpts. All violations of academic integrity that are noticed by me or the TAs will be sent to the Office of Academic Integrity without exception. *At minimum, if you cheat, you can expect an F for the entire quarter, not just the exam/assignment in question.*

Classroom etiquette in lectures and discussions: Physics is a difficult subject, and the following rules are aimed to keep our classroom environment focused on the task at hand for you and your peers. You know these basics already:

- Please arrive on time to lecture and discussion.
- Reading newspapers etc., is not allowed.
- All phones must be off during lectures, discussions, and exams.
- Phones/tablets/computers/ must be out of sight during exam periods.

The bottom line is that we will be considerate of one another at all times in lectures and in the discussions.

Email etiquette: Before e-mailing the instructors, consider carefully whether your question might be already answered in the syllabus, or whether it is best to ask your question in person. For example, it is difficult to e-mail about concepts in electrodynamics that involve integrals, differentials or other mathematics. If you send an e-mail, make sure to **include PHYS 100C in the subject header**. You must send your email from your UCSD address; please make it clear who you are. As always, a well-written and professional e-mail greatly increases the likelihood that you will get a response in a timely manner. The same standards apply to e-mails that you send to the TAs.

Topics covered this quarter

Week	Dates	Topics	Notes
1	Mar 29, 31	Syllabus, Overview, Transmission of EM waves in matter, conductors and plasmas	HW1: 9.8, 9.9, 9.15, 9.17 Due Thursday April 7 th .
2	April 5, 7	Guided waves and antennae	HW2
3	April 12,14	Absorption and Dispersion	HW3
4	April 19, 21	Potential formulation of Maxwell equations and retarded potentials	HW4
5	April 26, 28	Lienard-Wiechert potentials and fields of a moving point charge	HW5
6	May 3, 5	Radiation I Midterm May 5 th , up to week 5	HW6
7	May 10, 12	Radiation II,	HW7
8	May 17, 19	The special theory of relativity	HW8
9	May 24, 26	Relativistic mechanics and electrodynamics	HW9
10	May 31; June 2	Relativistic electrodynamics	--
FINAL	June 7		FINAL EXAM Tuesday June 7 Location MHA 5623

PHYS 100C grade:	Pop quizzes, 10	20% (2% each quiz)
	Homework	10%
	Midterm	30%
	Final exam, cumulative	40%

Pop quiz: There are ten pop quizzes; each worth 2%.

Exams: There is one midterm. There is one final exam. You must take the final exam to pass PHYS 100C. There are no make-up tests or rescheduled final exam. Exams are closed book.

Homework: There is roughly one homework per week. HW and class material are worked in parallel. There is no credit for late homework.

□ Academic Integrity at UCSD □

Excerpts from <http://senate.ucsd.edu/Operating-Procedures/Senate-Manual/Appendices/2>

□ “Integrity of scholarship is essential for an academic community. The University expects that both faculty and students will honor this principle and in so doing protect the validity of University intellectual work. For students, this means that all academic work will be done by the individual to whom it is assigned, without unauthorized aid of any kind. Instructors, for their part, will exercise care in planning and supervising academic work, so that honest effort will be upheld.” □

Instructors' Responsibility. □

“The Instructor shall state in writing how graded assignments and exams will contribute to the final grade in the course. If there are any course-specific rules required by the Instructor for maintaining academic integrity, the instructor shall also inform students of these in writing.” □

Students' Responsibility. □ “Students are expected to complete the course in compliance with the instructor's standards. No student shall engage in an activity that involves attempting to receive a grade by means other than honest effort; for example: □

□ No student shall knowingly procure, provide, or accept any unauthorized material that contains questions or answers to any examination or assignment that is being, or will be, administered. □

□ No student shall complete, in part or in total, any examination or assignment for another person. □

□ No student shall knowingly allow any examination or assignment to be completed, in part or in whole, for □ himself or herself by another person. □

□ No student shall plagiarize or copy the work of another person and submit it as his or her own work. □

□ No student shall employ aids excluded by the instructor in undertaking course work or in completing any exam □ or assignment. □

□ No student shall alter graded class assignments or examinations and then resubmit them for regrading. □

□ No student shall submit substantially the same material in more than one course without prior authorization.” □

Instructional Assistant's (IA) Responsibilities □

“A student acting in the capacity of an Instructional Assistant (IA), a category including but not limited to teaching assistants, readers, and tutors, has a special responsibility to safeguard integrity of scholarship. In this role the student functions as an apprentice instructor, under the tutelage of the responsible instructor. An IA shall equitably grade student work in the manner agreed upon with the course instructor. An IA shall not provide a student with any information or collaboration that would aid the student in completing the course in a dishonest manner (e.g., providing access to unauthorized material related to tests, exams, and homework).” □