

University of Southern California
Ming Hsieh Department of Electrical and Computer Engineering
EE 330 (Electromagnetics I)
Fall Term 2019 (Session 001, Section 30463R)
Units: 3
Tuesday, Thursday, 14:00–15:20, ZHS 163

Instructor	Alireza Tabatabaeenejad (Taba) alirezat@usc.edu	
Office Hours	Tuesday, 16:00–18:00 (or by appointment), DRB 226D	
Teaching Assistant	Amine Abouzaid abouzaid@usc.edu	
TA's Office Hours	Monday, 16:00–18:00, KAP 132	
Discussion Sessions	Friday, 10:00–11:50, VHE 214 Friday, 12:00–13:50, VHE 214 Friday, 14:00–15:50, VHE 214	
Course Website	blackboard.usc.edu	
Primary Text	Fawwaz T. Ulaby and Umberto Ravaioli, <i>Fundamentals of Applied Electromagnetics (7th Edition)</i> ; Website: http://em7e.eecs.umich.edu/	
Other References	U. Inan and A. Inan, <i>Electromagnetic Waves</i> Kraus and Fleisch, <i>Electromagnetics with Applications</i> Matthew Sadiku, <i>Elements of Electromagnetics</i> Hayt and Buck, <i>Engineering Electromagnetics</i> David K. Cheng, <i>Field and Wave Electromagnetics</i>	
Grade Breakdown	10 Homework Sets	20%
	Midterm Exam	25%
	Weekly Quizzes (in Discussion)	20%
	Technology-Brief Presentation	10%
	Final Exam	25%
Important Dates	First Day of Class	08/27/2019
	Fall Recess	10/17/2019–10/18/2019
	Midterm Exam	10/22/2019, 14:00–15:20
	Thanksgiving Holiday	11/27/2019–12/01/2019
	Last Day of Class	12/06/2019
	Final Exam	12/12/2019, 14:00–16:00

Homework

Late homework will not be accepted. Solutions will be posted on the course website a few days after the due date.

Weekly Quizzes

The weekly quizzes are short (about 15 minutes in duration) and are given during the Discussion Sessions. They are closed-book, closed-notes, and given throughout the semester. They cover material from the class lecture. Your two lowest grades will be dropped at the end of the semester.

Technology-Brief Presentations

Groups of two (or three) students will be formed in the first Discussion Session of the semester. Each group will be assigned a Technology Brief (TB) from the textbook and will present their research findings on their subject in the last Discussion Session of the semester. The TB material in the textbook should be treated as a starting point. You are required to present a more extensive version of the TBs. Each group will be given 15 minutes for presentation and 5 minutes for Q&A. Group grade is shared, i.e., all members of a group will receive the same grade, regardless of individual contribution.

Examinations

All exams are closed-book. You may use a calculator and notes written on both sides of a single letter-size sheet of paper. You will be tested on all material covered in class and discussion, on the assigned readings, and on the homework problems as well as similar problems. Please bring your USC ID card to each exam; it may be checked during the exam.

Final Course Grade

Final course grades will be calculated based on the above Grade Breakdown. The letter grades will be assigned based on 10-point intervals starting from 100. You will not be graded on a curve.

Use of Digital Devices in Class

Use of digital devices (i.e., laptops, tablets, smart phones, smart watches) in class is only allowed for class-related purposes.

Food in Class

Please refrain from eating food in class.

Prerequisite

You are expected to be familiar with circuit analysis, Ohm's law, Kirchhoff's current and voltage laws, and undergraduate calculus.

Course Description

By taking this course, you will gain a deeper understanding of electromagnetic concepts and applications. This course will cover basic static and dynamic electromagnetic field theory and applications, electrostatics, magnetostatics, Maxwell's equations, energy flow, plane waves incident on planar boundaries, and transmission lines.

University Policy on Grading and Correction of Grades

Grading is consistent with the with the “Grading and Correction of Grades” handbook.

Honor Code

The common-sense honor code applies to all aspects of this course. The fine print is below on the specific issue of how much collaboration is permissible among students in the preparation of solutions to problem assignments. Bottom line is that all homework assignments are to be completed on your own. You are allowed, and encouraged, to consult with other students in the current class regarding the general approach to solving problems, but all work submitted by you must be your work alone. It is important that you learn how to do these problems on your own. You are not allowed to possess or in any way derive advantage from the existing solutions prepared in previous years by former students, earlier professors, or from on-line sources. Violations of this policy are grounds for disciplinary actions filed with the Deans Office. If you have any questions or are in doubt, do not hesitate to ask for clarification.

USC Statement on Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *SCampus*, the Student Guidebook, contains the Student Conduct Code as well as the recommended sanctions.

USC Statement for Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to the instructor (or to TA) as early in the semester as possible.

Student Scheduling Conflicts

No student is permitted to omit or take early a final examination and no instructor is authorized to permit a student to do so. Students should plan to avoid scheduling conflicts in their final examinations. If a student is scheduled for two final examinations at the same time, the student should request to take one of the examinations on a different day or time. If a student is scheduled for more than two final examinations in one day, the student may request to take one of the exams on a different day or time. In either situation, the student must contact the professors involved no later than two weeks prior to the scheduled examination date and request an accommodation. If an accommodation cannot be arranged, the student should contact USC Testing Services at testing@usc.edu or (213) 740-7166 for assistance. Grades are due 96 hours after the university-scheduled final examination day and time. Therefore, it might not be possible to accommodate late student requests for an alternate, makeup final examination after the published examination period.

Religious Holy Days

University policy grants students excused absences from class for observance of religious holy days. Students are advised to scan their syllabi at the beginning of each course to detect potential conflicts with their religious observances. Please note that this applies only to the holy days that necessitate absence from class and/or whose religious requirements clearly conflict with aspects

of academic performance. Students should contact the faculty in advance to request such an excused absence. The student will be given an opportunity to make up missed work because of religious observance.

When a final examination is scheduled at a time that conflicts with a student's observance of a holy day, the student must discuss the conflict with the professor no later than two weeks prior to the scheduled examination date to arrange an acceptable alternate examination date and time. The student may reach out to the Office of Religious Life at (213) 740-6110 or vasoni@usc.edu (Dean of Religious Life) for guidance.

Documented Emergencies

In the case of a documented emergency that occurs after the withdrawal date and/or during the final exam period, students should consult the professor about receiving a grade of Incomplete (IN) for the semester. Faculty and students alike should refer to the rules regarding the mark of Incomplete at the time of the request.

The Registrar's Recommended Definition of Emergency

"An unforeseeable situation or event beyond the student's control that prevents her from taking the final examination or final summative experience." Based on this definition, a student may not request an IN before the withdrawal deadline. The rationale is that the student has the option to drop the course until the withdrawal date. The grade of IN exists so there is a remedy for illness or emergency which occurs after the deadline to withdraw.

Lecture Schedule (Tentative)

Week	Dates	Covered Material
1	08/27, 08/29	Chapter 1
2	09/03, 09/05	Chapter 2
3	09/10, 09/12	Chapter 2
4	09/17, 09/19	Chapter 2/Chapter 3
5	09/24, 09/26	Chapter 3
6	10/01, 10/03	Chapter 3/Chapter 4
7	10/08, 10/10	Chapter 4
8	10/15	Chapter 4
9	10/24	Chapter 5
10	10/29, 10/31	Chapter 5
11	11/05, 11/07	Chapter 6
12	11/12, 11/14	Chapter 6/Chapter 7
13	11/19, 11/21	Chapter 7
14	11/26	Chapter 8
15	12/03, 12/05	Chapter 8