

ECE 134 – Introductory Field Theory

UNIVERSITY OF CALIFORNIA AT SANTA BARBARA
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

ECE 134 is an introductory course in applied electromagnetics for electrical engineers. The course builds on material covered in introductory physics courses, with an emphasis on applications relevant to future work in electrical engineering. We will cover electrostatics, magnetostatics, induction phenomena, and time-varying fields on transmission-lines. The goal is to provide a good foundation and working knowledge of electromagnetics (EM theory), in the language of electrical engineers, to enable you to intelligently approach new problems or advanced coursework in EM. Students interested in the fields of optoelectronics, optics, semiconductor devices, high frequency digital and analog circuits, wireless telecommunications, radar, satellite systems, etc., will want to master this material and possibly take our senior-level EM elective sequence ECE 144-135.

The weekly homework assignments are an important part of the course, and the homework grade will be a significant fraction of the course grade. The final exam will be comprehensive. Discussion sections will be used for honing problem-solving skills and reviewing lecture material, but may also be used for make-up lectures and exam reviews. Attendance at discussion sections will be considered in the final grade.

Prerequisites:	Math 4B-6A-6B (or 5A-B-C), Phys 3-4, or equivalents		
Time and Place:	MW 12:30-1:45PM, PHELPS 1260		
Instructor:	Ilan Ben-Yaacov, x5295, ESB Room 2213, ilan@engineering.ucsb.edu		
Office Hours:	Mon 9:50-11:50AM in ESB Room 2213		
Discussions:	Wednesday 5:00-6:50PM in GIRV 2123 Thursday 4:00-5:50PM in HSSB 4202 Thursday 6:00-7:50PM in PHELPS 1448		
Textbooks:	Required text: <i>Field and Wave Electromagnetics</i> (2 nd Edition), by D.K. Cheng, Addison Wesley, 1989, ISBN: 0-201-12819-5 Additional Reference: <i>Engineering Electromagnetics</i> , by U.S. Inan and A.S. Inan, Addison Wesley, 1999, ISBN: 0-8053-4423-3		
Web Site:	http://www.ece.ucsb.edu/courses/ECE134/134_F13Ilan/		
Homework:	Weekly homework assignments, due by 5pm on the posted due-date in the course homework box in HFH. <i>Late homeworks will receive zero credit.</i>		
Exams:	A midterm exam and a comprehensive final will be administered. The midterm will be on November 6 in class, and the final will be during finals week.		
Grading:	Tentative breakdown, subject to change:	Homework:	25-35%
		Midterm Exam:	25-30%
		Final Exam:	30-35%
		Discussion:	0-10%
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	Pawana Shrestha:	pawana@umail.ucsb.edu	
	Jonathan Waltman:	jwaltman@umail.ucsb.edu	

TA Office Hours: See Class Web Site
