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 5A-B, Phys 3-4, or equivalents

Time and Place: MW 12:30-1:45PM, GIRV 2128

Instructor: Ilan Ben-Yaacov, x5295, ESB Room 2213, **ilan@engr.ucsb.edu**

Office Hours: Mon 9:30-11:30AM in ESB Room 2213

Discussions: Wednesday 5:00-6:50PM in HSSB 4202
Thursday 4:00-5:50PM in HSSB 4201
Thursday 6:00-7:50PM in HSSB 3201

Textbooks: Required text:
Engineering Electromagnetics, by U.S. Inan and A.S. Inan,
Addison Wesley, 1999, ISBN: 0-8053-4423-3

Additional Reference:
Field and Wave Electromagnetics (2nd Edition), by D.K. Cheng,
Addison Wesley, 1989, ISBN: 0-201-12819-5

Web Site: **http://my.ece.ucsb.edu/ECE134**

Homework: Weekly homework assignments, due by 5pm on the posted due-date in the course homework box in HFH. ***Late homeworks will receive zero credit.***

Exams: A midterm exam and a comprehensive final will be administered. The midterm will be on November 7 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%

TAs/Grader:

Merve Albayrak:	mervealbayrak@umail.ucsb.edu
Sami Ortoleva:	sortoleva@umail.ucsb.edu
Eric Stanton:	estanton@umail.ucsb.edu

TA Office Hours: See Class Web Site
