

*Department of Electrical Engineering
University of California
Riverside, CA 92521*

EE116: Fall 2004

ENGINEERING ELECTROMAGNETICS

Class type: LEC Day: MWF Time: 3:10 PM-4:00 PM Location: PHY 2104
DIS Day: to be announced

Instructor: Prof. Alexander A. Balandin Office: Bourns Hall, A227

Email: alex@ee.ucr.edu

Hours: M 4:00 PM - 5.30 PM
F 10.00 AM – 11.30AM

Teaching Assistant: to be announced in class

TA office hours and office: to be announced in class

Prerequisite: EE001B

Final Exam: 12/06/04 3.00 PM – 6.00 PM

Course

This is a one-quarter course for 4 credits. The subject matter includes static electric and magnetic fields, time-varying fields, Maxwell's equations, plane wave propagation, introduction to transmission lines and antennas, and examples of practical engineering problems.

It is assumed that the student is familiar with basics of vector analysis, differentiation, and integration. Specific topics to be covered include solution of Maxwell's equations; boundary conditions; dielectric materials and their polarization; magnetic materials, transmission lines; elements of antenna theory.

Course Grading

Homework and short tests:	10%
Midterm exam:	40%
Final:	50%

Homework

Homework will be assigned weekly, and it will be collected each Monday at the beginning of class. No late homework will be accepted. It will be graded on a scale from 0 to 100 with 100 being the maximum score. Solution of the homework problems will normally require reading the book, working on examples, and reviewing class material. A homework that is turned in should be completely independent effort.

Tests

At the instructor discretion, short tests will be given to determine the students understanding of homework and class material. **The test score will enter the “grade equation” as a single homework score.**

Discussion Session

During discussion sessions the teaching assistant will solve example problems and answer questions regarding the course material. Attending discussion sessions significantly helps in solving HW problems.

Text Books

M.F. Iskander, *Electromagnetic Fields and Waves*, Prentice Hall, 1992.

The Chapters Covered in EE116

Chapters 1-5; Chapter 7 (sections 7.1-7.7 only); Chapter 9 (sections 9.1-9.4 only); some of the examples, problems and topics will be other books.

Additional Reading

S. E. Schwarz, *Electromagnetics for Engineers*, Saunders College Publishing, 1990.

B. S. Guru and H. R. Hiziroglu, *Electromagnetic Field Theory Fundamentals*, PWS Publishing Company.

Note: EE116 is prerequisite for EE117: Engineering Electromagnetics – II, a course which is taught from the same textbook but focuses on detail study of wave guides and antennas.

For more information, visit the web-site <http://ndl.ee.ucr.edu/undergradw.htm>