

*Department of Electrical Engineering
University of California – Riverside*

EE 116: Fall 2005

ENGINEERING ELECTROMAGNETICS

Prerequisite: EE 001B (may be taken concurrently)

Lecture: MWF 1:10 - 2:00 p.m., Geology Building 1408

Instructor: Dr. Vladimir Fonoberov (vladimir.fonoberov@ucr.edu)

Office hours: W 11:00 a.m. - 12:00 p.m., Engineering II 222 (knock at the door if closed)

Discussion:

Section 021: M 7:10 - 8:00 p.m., SPTH 1222, TA: Rui Li (ruili@ee.ucr.edu)

Section 022: T 8:10 - 9:00 p.m., OLMH 1132, TA: Khan Alim (alim@ee.ucr.edu)

Course Description:

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.

Text:

"Electromagnetic Fields and Waves" by Magdy F. Iskander, Waveland Press, 2000 (ISBN 1-57766-115-X)

Chapters covered: Chapters 1-5; Chapter 7 (sections 7.1-7.7 only); Chapter 9 (sections 9.1-9.4 only)

Homework:

Homework will be assigned each Monday, and it will be collected each Wednesday 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.

Course grading:

- Homework and short tests (10 %)
- Midterm (40 %)
- Final Exam (50 %)

Midterm: Wednesday November 2, 2005; 1:10 - 2:00 p.m.

Final Exam: Friday December 16, 2005; 11:30 a.m. - 2:30 p.m.

Additional Information:

Course information is available at http://faculty.ucr.edu/~vladimf/ee116_fall05.htm

Grades will be available at <http://iLearn.ucr.edu/>