

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

**EE117: Winter 2006**

**ELECTROMAGNETICS II**

**LEC** Day: MWF Time: 9.10 AM - 10.00 AM  
Location: STAT 2674

**LAB** Day: R Time: 4.10 PM – 7.00 PM  
**Location:** ENG2 128

**Instructor: Prof. Alexander A. Balandin** Office: ENG2, Room 435  
Email: [balandin@ee.ucr.edu](mailto:balandin@ee.ucr.edu) Hours: TBA

Teaching Assistant: TBA

**Prerequisite:** EE116  
**Final Exam:** 03/21/2006 at 3.00 PM – 6.00 PM

**Course**

This is a one-quarter course for 4 credits. The subject matter includes static fields, boundary-value problems, Laplace's and Poisson's equations, numerical solution of the electrostatic problems, electromagnetic waves in waveguides, cavity resonators, antennas, propagation in dielectrics and optical fibers.

**Computer Simulation Laboratory**

The course involves computer simulation laboratory on electrostatic problems, wave propagation, waveguides and antennas. The laboratory projects will include mathematical formulation of the problem, development of computer code, numerical simulation, and presentation of the results in the lab report. It is assumed that students are familiar with the basics of vector algebra, electromagnetics, and computer programming (MATLAB or FORTRAN or BASIC).

**Antenna Field Testing**

Interested students will be given an opportunity to carry out field tests (measurement of radiation patterns and directivity) of antennas as a practical training relevant to this course. The instructor will provide equipment and testing manual. The field-testing of antennas is optional, and it is NOT required for all students.

## Course Grading

Homework:	10%
Lab Projects:	20%
Midterm:	30%
Final Exam:	40%

## Homework

Homework will be assigned biweekly, and it will be collected on Monday at the beginning of the class. No late homework will be accepted. It will be graded on a scale from 0 to 100 with 100 being the maximum score.

## Tests

At the instructor discretion, short tests may be given to determine the student understanding of homework and class material. No more than two tests will be given. The test grade enters the “grade” equation the same way as the homework. No makeup tests will be given to those who missed the test at the lecture.

## Text Book

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

## Additional Reading

- S. E. Schwarz, *Electromagnetics for Engineers*, Saunders College Publishing, 1990.
- U. S. Inan and A.S. Inan, *Engineering Electromagnetics*, Addison-Wesley, 1999.

The textbook is available in the UCR bookstore



Figure shows testing equipment and prototype antennas developed by former **EE116-EE117** students for their senior design project. For more relevant info visit instructor's web-site <http://ndl.ee.ucr.edu/> and click on "Undergraduate Study"

**Good luck!**