EEC 133 Radiation and Antennas  
Fall 2006 (4 units)

Time: TR 8:00-9:50am  
Location: Wellman 202  
Instructor: Anh-Vu Pham  
3141 Kemper Hall  
Phone: 752-7472 and pham@ece.ucdavis.edu

Office Hours: TR 10:00-11:00am or by appointment

Teaching Assistants: Mr. David Stoops  
Office Hours: TBD

Class Web page: http://my.ucdavis.edu

Required Text Book: J. D. Kraus and R. J. Marhelka, Antennas for All Applications,  

Grading
Homework (weekly)  5%
Exams (2)  60%
Final Exam  35%

Exam: There will be no make-up exams. Students must notify the instructor a week in advance if he/she will miss an exam. The student must provide legitimate excuses in order to take an oral make-up exam to earn a grade.

Expanded Course Description:
I. Fundamental Concepts
   A. Review of System Concepts
   B. Review of Fundamentals of Electromagnetics
   C. Point Sources
   D. Power and Radiation
   E. Radiation Intensity
   F. Examples
   G. Directivity
   H. Gain Examples
   I. Field Patterns
   J. Antenna as an Aperture
   K. Examples
   L. Friis Transmission Formula
II. Ideal Linear Antennas
   A. Short Dipole

III. Thin Linear Antennas
   A. Far Field Equations
   B. Radiation Resistance or Wire Antennas
   C. Log Periodic Antennas

IV. Cylindrical Antennas
   A. Hallens Integral Equation
   B. Current Distributions
   C. Output Impedance

V. Small Loop Antennas
   A. Fields from a Circular Loop Antenna
   B. Radiation Resistances or Small Loop Antennas

VI. Aperture Antennas
   A. Huygens Principle and Aperture
   B. Application to Horn Antennas
      1. H Plane Sectional Horn
      2. E Plane Sectional Horn
      3. Pyramidal Horn

VII. Arrays

VIII. Antenna Measurements and Analysis
   A. Dipoles
   B. Monopoles
   C. Simple Arrays
   D. E and H Plane Horns
   E. Pyramidal Horns