Overview: This course begins with the study of time varying electromagnetic fields, moves to a study of plane-wave propagation, reflected and guided waves, radiation and antennas, and practical applications. The course outcomes are:

1) the ability to analyze and design electromagnetic components;
2) the ability to apply vector calculus to electromagnetics under dynamic conditions;
3) familiarity with Maxwell’s equations and the ability to solve basic wave problems;
4) familiarity with basic antennas and the ability to make simple measurements;
5) an understanding of the applications of electromagnetics.

Text: Fundamentals of Applied Electromagnetics, Ulaby, 5th edition. In this course, we will study chapters 6-10; Chapters 1-5 are prerequisite material.

WebCT: ECE332 does not use web CT. Some course material will be provided on the class website. There is no video streaming for this class. Class attendance is expected, and necessary for success. Homework: Homework generally will be assigned each Thursday and due the following Thursday at the beginning of class. Homework is not graded, but it is examined by the Professor. You are strongly encouraged to do all the homework each week. This is to encourage you to keep up with the class (you don’t want to be trying to learn this material the night before the midterm!) and to be prepared for the types of problems you will see on the exams. Late homework will not be accepted.

Lab: There are three multi-week labs integrated with the classroom lectures. The first lab is time-varying magnetic fields, inductors, and magnetic coupling. The second lab is antennas, and the third lab is Radar. Each lab will involve the design, construction, and measurements of small projects.

Exams: There will be two midterms and a final. Exams are closed book, with one page of notes allowed. Lab material will be covered in class exams. Certain formula tables will also be provided. If you have to miss an exam, you must discuss it with me beforehand if at all possible; makeups will only be given for compelling reasons.
If you are a student with a documented disability and registered with the Disability Resource Center (DRC), please contact me well before the first midterm to make appropriate accommodations. DRC can be reached at 725-4150.

Grading: If the class average is > 80%, grading is done by standard percentages, i.e. 90 and above = A, 80 - 89 = B, 70 - 79 = C, etc. If the class average is < 80%, a standard curve is used. Plus and minus grades are used for borderline cases at the instructor's discretion. Your evaluation will be based as follows:

Homework and class participation  ------  10%
Midterms  ------  50%
Final exam  ------  30%

Schedule:
Week Dates Topic Reading
1 4-1 4-3 Time varying magnetic Fields 6.1-6.3
2 4-8 4-10 Lab 1 discussion; Transformers, 6.3-6.6
Generators