Syllabus for Electromagnetic Applications  
ECE 3065 – Spring 2005

Class Description:

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<td>3</td>
<td>Greg Durgin</td>
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<td>3:05 PM - 4:25 PM</td>
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ECE 3065 Electromagnetic Applications

In this course, we apply Maxwell’s equations to a number of interesting and useful applications. Subjects include advanced transmission line theory, radio wave propagation, waveguides, fiber optics, resonators, two-port analysis, and antenna theory.

Instructor: Greg Durgin  
Office: 511 Van Leer  
Office Hours: T, Th 4:30 - 5:00 p.m.  
Additional hours to be announced  
Others by appointment  
E-mail: durgin@ece.gatech.edu  
Office Phone: (404) 894-2951  
Class Web Page: [http://www.propagation.gatech.edu/ECE3065](http://www.propagation.gatech.edu/ECE3065)


Prerequisites: Students must have taken ECE 3025 and received a C or higher.

Grading:

15% Homework – Expect approximately 8 homework assignments over the course of the semester.

65% 2 Midterms and a Final Examination – There will be 3 in-class examinations (2 midterms and 1 final). The two highest midterm scores will count 25% each toward the final class grade; the lowest midterm score will only count 15% toward the final class grade.
20% Project – A class project will be assigned later in the semester and turned in the last week of class.

**Test Dates:** Tests will be administered on the following days:
- Midterm 1 – 17 February 2004 (Thursday)
- Midterm 2 – 7 April 2004 (Thursday)
- Final Exam – 6 May 2004 (Friday) 11:30am – 2:20pm
Any change to this schedule will be announced with advanced (more than 1 week) notice.

**Computer Usage:** The web will be used extensively in this class to disseminate homework assignments, lecture materials, and class announcements.

Some homework assignments may involve the use of Matlab™ software. Most students should have access to this software through a university computer lab or their own personal computing packages. If not, please inform the instructor.

**Tentative Lecture Topics:**
1. Sinusoidal Transmission Lines
2. Plane Waves in Simple Media
3. Radio Wave Propagation
4. Waveguides
5. Resonators and Cavities
6. Multi-Port Analysis
7. Antenna Theory

**Honor Code:** The Honor Code applies to every aspect of this class, with only one noteworthy exception: student discussion of concepts and techniques for solving homework problems is permitted and even encouraged outside the classroom. However, *all submitted work must be original.*