PREREQUISITES: EE 3221 and EE3340

COURSE OBJECTIVE:
To introduce the fundamentals of modern communications systems.

REQUIRED TEXT:

INSTRUCTOR:
John R. Barry
Office: GCATT 575
Phone: 404-894-1705
Fax: 404-894-7883
E-Mail: barry@ece.gatech.edu
Office Hours: MWF after class, or by appointment.

WEBSITE:
Extra handouts and other useful information can be found at:
http://www.ece.gatech.edu/users/barry/4061/

HONOR CODE:
Please uphold the academic honor code (see http://www.gatech.edu/honor/). Violations will be reported to the office of the Vice-President for Student Services.

HOMEWORK:
Homework is due at the beginning of class one week after it is assigned. The lowest homework grade will be dropped. Extra handouts and solution sets will be available on the web. Collaboration on homeworks is encouraged. (Of course, copying homework is a violation of the honor code and will not be tolerated.)

GRADING: Non-Graduating Students Graduating Students
Homework 10% Homework 15%
Quiz 1 25% Quiz 1 35%
Quiz 2 20% Quiz 2 30%
Project 15% Project 20%
Final Exam 30%
TENTATIVE COURSE OUTLINE

• Overview [Chapter 1]
• Signal representations [Chapter 2 and Sects. 8.3, 8.4]
• Baseband Pulse-Amplitude Modulation [Chapter 7]
• Minimum-Distance Receiver Design [Chapter 7]
• Pulse Shaping and Equalization [Chapter 7]
• Review of Probability and Random Processes [Chapter 4]
• Optimum Receiver Design in Additive White Gaussian Noise [Chapter 7]
• Passband Modulation [Chapter 8]
• Performance Analysis and Comparison [Chapter 8]
• Spread Spectrum Communications (Time Permitting) [Chapter 9]
• Carrier Synchronization and Timing Recovery (Time Permitting) [Chapter 8]