Syllabus

ECE 220: Signals and Systems I
Department of Electrical and Computer Engineering
George Mason University
Spring 2010

Instructor: Dr. Joseph L. Hibey
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Office: Engineering Building, Room 3707, 3708
Phone: 703-993-1569 (ECE office)
Office Hours: Tuesday 3:00-4:00 pm
Thursday 3:00-4:00 pm

Required Texts:

Recitation & Lab: Each meets once a week, and is designed to complement course material.

Course TA:

Homework: Assigned weekly and due the following week. Working in small groups is encouraged. Will comprise a maximum of 20% of final grade, where the actual percentage will be weighted by performance on two in class exams.

Exams: One midterm exam and one final exam will be administered in class. Each is closed-book, closed-notes. Students unable to attend on the announced date because of illness, business travel, or an emergency, must notify instructor before the exam and provide written justification (such as a doctor’s note, a copy of travel documents, etc.).

Grading:
Lab: 20%
Homework: 20%
Midterm exam: 30%
Final exam: 30%
Tentative Class Schedule

Jan. 19: Introduction and background review; basic signals and signal operations

Jan. 26: System properties; LTI systems and convolution integral

Feb. 2: Graphical convolution; LTI system properties

Feb. 9: Differential equations; singularity functions

Feb. 16: Eigenfunctions; Laplace transform

Feb. 23: Laplace transform properties; inverse Laplace transform

Mar. 2: Midterm exam

Mar. 8: Spring Break

Mar. 16: Problem solving with Laplace transforms

Mar. 23: Fourier series and their properties

Mar. 30: LTI response to periodic inputs; Fourier series convergence

Apr. 6: Fourier transforms and their properties

Apr. 13: Convolution and multiplication properties; frequency analysis of LTI systems

Apr. 20: Ideal and practical filters; Bode plots

Apr. 27: Pole-zero plots and frequency response; LTI system analysis

May 11: Final Exam