EE 110A Signals and Systems

Department of Electrical Engineering

University of California at Riverside, Fall 2012

Lectures: TR 08:10 - 09:30 AM at WCH 138

Instructor:
Dr. Hamed Mohsenian-Rad
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Office Hour: Tuesday 9:30 – 10:30 AM

TAs:
Tian Lang and Ali Cirik
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Office Hour: Tian Lang: Wed 12:30 – 2:00 PM
Ali Cirik: Mon 1:00 – 1:45 PM

Textbook:

Alan V. Oppenheim and Alan S. Willsky, Signals and Systems, 2nd Edition, Prentice-Hall, 1997.

Prerequisites:

CS 010; EE 001B (may be taken concurrently); MATH 046; EE 020

Course Objective:

To provide an introduction to fundamental concepts & tools for analysis of signals and systems.

Weekly Schedule (Estimate):

- Weeks 1-2: General Concepts of Signals and Systems (Chap. 1): Typical class of signals, typical class of systems, important concepts and properties.
- Weeks 3-4: LTI Systems (Chap. 2): Time domain representation, convolution, impulse response, causality and stability, linear ordinary differential equations.
- Weeks 5-6: Fourier Analysis (Chap. 3, Chap. 4): Frequency response of LTI systems, Fourier series, Fourier transforms and their properties, convolution theorem.
- Weeks 7-8: Frequency domain analysis (Chap. 6): Frequency response revisit, transfer functions and realization, first and second order systems, basics of filters.
- Weeks 9-10: Laplace Transformation (Chap. 9): Laplace transform, region of convergence, properties of Laplace transforms, typical Laplace transform pairs, inverse Laplace transformation, application to system analysis.

Course Material:

Course handouts, assignments, and all other course materials will be posted on *iLearn*.

Labs:

W 02:10 - 05:00 PM, or W 06:10 - 09:00 PM, or F 11:10 AM - 02:00 PM.

Assignments:

Homework assignments are assigned on each Thursday and are due the next Thursday in class.

Lab assignments are assigned on each Tuesday and Lab Report is due the next Tuesday in class.

Exams:

Mid-term exam will be on Nov, 6, 2012 from 8:10 AM to 9:30 AM in Class.

Final exam will be on Dec, 8, 2012 from 3:00 PM to 5:30 PM.

Grading:

Mid-term Exam: 20% Final Exam: 40% Homework: 20% Lab: 20%

Quizzes:

Pop-up quizzes will be given during some lectures. Each quiz should not take more than five to ten minutes to complete. This will be bonus credit added to your grade (total 5%).

Academic Dishonesty:

Every member of the UCR community is expected to practice honorable and ethical behavior both inside and outside the classroom. Any actions that might unfairly improve a student's score on homework, quizzes, labs, or examinations will be considered cheating and will not be tolerated. Please check relevant policies on academic integrity posted on the EE department website at http://www.ee.ucr.edu/index.php/Academic-Integrity/Academic-Integrity.html. At the professor's discretion, cheating on an assignment or examination will result in a failing grade for the entire course, or a reduced grade, or a zero score for the particular assignment, or exam. All occurrences of academic dishonesty will be reported to the corresponding UCR officers. If there is any question as to whether a given action might be construed as cheating, please see the professor or the TA before you engage in any such action.