UNIVERSITY OF CALIFORNIA, DAVIS
Department of Electrical and Computer Engineering

EEC150A Signals and Systems I Winter 2010

Course Information

Course Content: Characterization and analysis of continuous-time linear systems. Fourier series and transforms with applications. Introduction to communication systems. Transfer functions and block diagrams. Elements of feedback systems. Stability of linear systems.

Prerequisite: EEC100, Engineering 6

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Office Hours:	Tu 3:00-5:00pm

Lectures: MW 10:00–12:00am, 176 Chem

Teaching Assistants:

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Office Hours:	Monday, 4-5:30 Kemper 2101
	Tuesday, 10-11:30, Kemper 2161

Textbook: *Signal Processing & Linear Systems*, by B. P. Lathi, Berkeley-Cambridge Press, 1998.

Web Site Information: Most of the information for this course will be provided on the course web page at http://www.ece.ucdavis.edu/~levy/eec150A.html. This course information appears on the course web page. Also on the web page will be problem set assignments, problem set solutions, and exam solutions. The web page will be updated frequently during the quarter.

Enrollment: Enrollment in this course is handled on the Web at http://sisweb.ucdavis.edu. If you decide to drop the course, you must place your drop request before Monday, February 1, 2010. The last date to add the course is Wednesday, January 20, 2010.

Problem Sets: Assigned each Eednesday on the course web page, due by 5pm the following Wednesday in the problem set box for this section located in 2131 Kemper Hall. To help in handling the problem sets, please do your work on only on side of each page, staple your pages and write your name, problem set number, and course number on the outside. The problem sets will be graded by a reader and returned in lecture

Each problem on a problem set is worth 5 points, with points allocated as follows:

Solution (4 points possible)	
Correct:	4
Minor error:	3
Major error:	2
Attempted :	1
Neatness (1 point possible)	

Late problem sets will not be accepted without prior approval from the instructor.

The problem set solutions will be made available on the web page

Exams: There will be two mid-term exams and one final exam given under the following schedule:

Midterm # 1	February 3
Midterm # 2	March 3
Final	March 20, 6:00-8:00pm

The examinations will be closed-book, but for the first and second midterms, and for the final exam, you will have the right to use respectively one, two, and three $8\,1/2 \times 11$ pages of notes written on both sides. Calculators will be allowed, but will not be critical in the examinations. Each of the midterm examinations will cover 4 weeks of material. The final examination will cover the entire course. Futher information on exam content will be given in class prior to each examination.

Giving a make-up examination is difficult, as the examination requires a considerable amount of time to prepare, and it is difficult to make this examination equivalent to the regularly scheduled examination. Therefore, requests for make-up examinations will only be approved in cases where strong written justification can be provided. Acceptable justification includes illness (confirmed in writing by a physician) and personal problems (confirmed by personnel at the Counseling Center). You must contact the instructor before the regularly scheduled examination to request approval of a make-up examination.

Regrading: If you think you deserve more points on a problem set or examination question, write a short note indicating what should be reconsidered, attach it to the problem set or examination, and return it to the instructor. The instructor will review the grading, reassign points if justified, and return the paper in class. If you are still not satisfied with your score, please make an appointment to meet with the instructor.

Grading: Course grades are based on a weighted sum of problem set scores, midterms, and final examination scores, with the following weights.

Problem sets	15%
Midterm 1	25%
Midterm 2	25%
Final exam	35%

The grading method lies somewhere in between an absolute scale and a curve. The instructor usually gives approximately 25% As, 25% Bs, 35% Cs, and 15% Ds and Fs for upper division undergraduate courses. However, these percentages are adjusted to take into account yearly fluctuations in the level of student performance.

Course Outline

The lecture schedule is outlined below. Sections of the textbook that cover the topics presented during each lecture are listed in the column with heading Reading.

Date		Lect	Topic	Reading
Jan.	04	1	Signals, system properties	1.1-1.8
	06	2	System analysis, impulse response	2.1-2.3
	11	3	Convolution	2.4
	13	4	Fourier series	3.4
	18		*Martin Luther King's Birthday*	
	20	5	Fourier series, cont.	3.5-3.7
	25	6	Aperiodic signals, Fourier transform	4.1
	27	7	Fourier transform properties	4.2-4.3
Feb.	01	8	Frequency response, energy	4.4, 4.6
	03		*Midterm # 1*	
	08	9	AM modulation	4.7
	10	10	angle modulation	4.8
	15		*Presidents Day*	
	17	11	Sampling theorem	5.1
	22	12	Laplace transform	6.1-6.2
	24	13	Inverse Laplace transform	6.5
Mar	01	14	Block diagrams, stability	6.5, 6.7
	03		*Midterm # 2*	
	08	15	Frequency response, poles/zeros	7.1-7.3
	10	16	Filter design, Butterworth filters	4.5, 7.5
	15	17	Chebyshev, high, band-pass filters	7.6-7.7