

ECE 158, Digital Signal Processing, Fall 2007

Schedule: MW 4:00-5:30, Phelps 1508

http://www.ece.ucsb.edu/courses/ECE158/158_F07Gibson/default.html

Department of Electrical and Computer Engineering

University of California, Santa Barbara

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Office Hours: Tuesday/Thursday 3-4 pm
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Teaching Assistants:

Yujia Wang, yujia@umail.ucsb.edu, Office Hours on Tuesdays 3 to 4 pm

Emrah Akyol, eakyol@umail.ucsb.edu, Office Hours on Monday 11 am to noon

All TA Office Hours are held in Room 1140, Harold Frank Hall

Laboratory: Attendance in the laboratory is mandatory for all students.

Midterm Examination: Monday, November 5th

Final Examination: Saturday, December 15th, 4-7 pm

Grading:	Homework	25%
	Midterm	25%
	Final	25%
	Laboratory	25%

Homework: Homework problem sets will be distributed in class on Wednesdays. Homework assignments are due the following Wednesday and must be turned in **at the beginning of class**. *Late Homework will not be graded*. Solutions will be posted on the course web site.

Text: S. K. Mitra, *Digital Signal Processing: A Computer-Based Approach*, 3rd ed., McGraw-Hill, 2006.

Recommended Reading in the Text:

Chapter 1: 1.1, 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5, 1.2.6

Chapter 2: 2.1.1, 2.1.2 (especially Sampling Rate Alteration), 2.1.3 (especially Periodic and Aperiodic Signals), 2.2.1, 2.4.1, 2.5.1, 2.8.1

Chapter 3: 3.1, 3.2, 3.3, 3.8.1, 3.8.2, 3.8.3, 3.8.7, 3.9

Chapter 4: 4.2, 4.10, 4.11

Chapter 5: 5.1, 5.2, 5.3, 5.4, 5.6, 5.7, 5.9, 5.10, 5.11, 5.12

Chapter 6: 6.1, 6.6, 6.7.1, 6.7.2, 6.7.3

Chapter 7: 7.4.3, 7.9.2

Chapter 8: 8.3.3

Chapter 9: None

Chapter 10: 10.2.4

Chapter 11: 11.3, 11.4

Chapter 12: None

Chapter 13: 13.1, 13.2, 13.4

Chapter 14: 14.1, 14.2, 14.3, 14.4.3

Labs—First Wednesday Lab on 10/3 and first Monday Lab on 10/8

Lab 1: MATLAB and the Moving Average

Lab 2: Sampling

Lab 3: Sample Rate Alteration

Lab 4: Linear Systems and Filtering

Lab 5: Windowing

Lab 6: The Discrete Cosine Transform

Lab 7: Filter Banks