EE 123
DIGITAL SIGNAL PROCESSING
Fall 2009

Instructor: Dr. Murat Arcak (Email: arcak@eecs.berkeley.edu, Office: Cory 569, Phone: (510) 642-4804)

Office Hours: Thursday 5:00-6:00 pm or by appointment

Teaching Assistant: Nebojsa Milosavljevic (Email: nebojsa@eecs.berkeley.edu)

Office Hours: Thursday 3:00-4:00 pm (Moore Room, Cory Hall)

Administrative Assistant: Rosita Alvarez-Croft (Email: rosita@eecs.berkeley.edu, Phone: (510) 643-4976)

Class Hours and Room: Wednesday and Friday, 9:30 - 11:00 am, 521 Cory

Discussion Section: Wednesday 4:00-5:00 pm, 521 Cory

Course Web site: http://www-inst.eecs.berkeley.edu/~ee123/fa09/

In addition, bSpace will be used to post solutions and grades for tests and homework sets.

Prerequisite: EE 120, graduate standing, or consent of instructor


Reference Books: The following are on reserve for 1-day loan in the Kresge Engineering Library:


Grading:

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<th>Points</th>
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<tr>
<td>Homework</td>
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<td>Midterm 1</td>
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<td>Midterm 2</td>
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Homework: Weekly homework sets will be assigned. 20% penalty for each session late. Submission will NOT be accepted if more than two sessions late.

Midterm and final dates:

October 9, Friday: Midterm 1 (in class)
November 13, Friday: Midterm 2 (in class)
December 17, Wednesday: Final (8:00 am – 11:00 am; location to be announced)

Tentative Course Outline:

- Review of discrete-time signals and systems, Discrete-Time Fourier Transform (DTFT), z-Transform (Chapters 2 and 3); digital filter structures (Chapter 6)
- Discrete Fourier Transform (DFT) and Fast Fourier Transform (FFT) (Chapters 8 and 9)
- Sampling and quantization, finite word length effects (Chapters 4 and 6)
- Frequency response of LTI systems (Chapter 5) and filter design techniques (Chapter 7)