EE 445 : SAMPLED-DATA SYSTEMS **SPRING 1998**

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References:

1.	G. F. Franklin, J. D. Powell and M. L. Workman, Digital Control of Dynamic Systems (2nd Ed.), Addison- Wesley, 1990.
2.	K. Ogata, Discrete-Time Control Systems, Prentice-Hall, 1987.
3.	J. A. Cadzow and H. R. Martens, Discrete-Time and Computer Control Systems, Prentice-Hall, 1970.
4.	J. R. Leigh, Applied Digital Control, Prentice-Hall Int., 1985.

Course Outline:

Week	**Topic**
1	Review of dicrete-time signals and the z-transform.
2-3	Review of dicrete-time systems: Representations, stability, poles & zeros.
4	Analysis of the sampling process.
5	Frequency-domain analysis of sampled-data systems: Pulse transfer function, modified z-transform.
6	Review and Midterm Exam.
7-9	Frequency domain design: Review of continuous-time controller design, discrete equivalents of continuous-time controllers, design by Bode plots, deadbeat control.
10-13	State-space analysis and design: State feedback, observer design, introduction to optimal control.
14	Projects evaluation.

Grading:

Midterm Exam: 25%
Homeworks: 10%
Term Project: 25%
Final Exam: 10%.