**EE 5372/7372**  
**Digital Signal Processing**  
**Fall 2004**

**Meeting Time:** Tue-Thu 09:30-10:50  
Room 112, Junkins

**Instructor:** Professor Panos Papamichalis  
Office: Room 349, Junkins  
Telephone: 214-768-4905  
E-mail: panos@engr.smu.edu

**Office Hours:** Tue 2-3 pm, Wed 2-3 pm, Thu 3-4 pm, Room 323, Junkins

**Course Description:** Classification and characterization of discrete-time systems,  
z-transforms and its application, discrete Fourier transform, Fast Fourier  
transform, and digital filter design.

**Course Outline:**  
- Discrete-Time Signals and Systems  
- The z-Transform  
- Sampling of Continuous-Time Signals  
- Transform Analysis of LTI Systems  
- Structures of Discrete-Time Systems  
- Filter Design Techniques  
- The Discrete Fourier Transform  
- Computation of the DFT

4 lectures  
3 lectures  
3 lectures  
2 lectures  
3 lectures  
3 lectures  
4 lectures  
3 lectures

**Prerequisites:** EE 3372 (Introduction to Signal Processing); Knowledge of MATLAB


**Other resources:**  
*Digital Signal Processing*, M.H. Hayes, Schaum’s Outline Series, 1999

**Grading:**  
Homework  
20%  
Exam 1  
25% (Thu, Sep 23, in-class)  
Exam 2  
25% (Tue, Nov 2, in-class)  
Final Exam  
30% (Fri, Dec 10, 08:00-11:00)
Exams
There will be two midterm exams during the semester and a final exam. All will be comprehensive. You will be allowed to bring one 8.5” x 11” sheet of paper with notes on it into the exams.

Homework
There will be approximately 1 homework assignment per week. The homework may contain some problems to be solved in Matlab. The homework must be handed in by the midnight the day it is due. No late homework will be accepted. Students enrolled in EE7372 will be required to answer additional homework questions (and exam problems) that will be extra credit for students enrolled in EE5372. You may work with other students on the homework, but the work you turn in must be your own.

Academic Honesty: SMU Policies apply.