

**EE 5372/7372**  
**Topics in Digital Signal Processing**  
**Fall 2006**

*Course Description:* This course is intended to provide an extended coverage of discrete-time signal processing. Discrete-time signals and the analysis of systems in both the time and frequency domains are reviewed. Other topics covered include multi-rate signal processing, digital filter structures, filter design, and power spectral estimation. Prerequisite: EE 3372.

*Time:* MW 5:00-6:20 PM

*Location:* 129 Caruth Hall

*Instructor:* Carlos E. Davila

*Text:* *Digital Signal Processing: Principles, Algorithms, and Applications*  
Fourth Edition  
J.G. Proakis and D.G. Manolakis  
Pearson Prentice Hall  
ISBN 0-13-187374-1

*Modules:* I. Review of Digital Signal Processing (chapters 1-7)  
II. Digital Filter Implementation (chapter 9)  
III. Digital Filter Design (chapter 10)  
IV. Multirate Signal Processing (chapter 11)  
V. Linear Prediction and Optimum Linear Filters (chapter 12)  
VI. Power Spectrum Estimation (chapter 14)  
VII. Introduction to Speech Compression

*Grading Policy:* Midterm Exam 30%  
Final Exam 30%  
Homework Assignments 10%  
Programming Assignments 25%  
Course Participation 5%

Some course rules and expectations:

- Homework assignments are due one week after they are assigned.
- No late homeworks will be accepted.
- Attendance will be taken and will count towards the *course participation grade*.
- Adherence to the **SMU Honor Code** will be strictly enforced.

- Calculators having high-end functionality such as numerical integration will not be allowed during tests.

The following items have to do with common courtesy and respect for your classmates and professor:

- Please arrive/exit class on time, late arrivals and early exits can be a distraction to others.
- Please do not use cell phones or other communications devices while in class.
- Please minimize talking during lecture as this can be very disruptive to those around you who are trying to listen to the lecture.
- One page note sheets will be allowed on each test. Your work area should otherwise be completely cleared of books and additional notes during a test.

### Electrical Engineering Program Objectives

#### SMU Incomplete Grades Policy

An Incomplete (I) may be given if the majority of the course requirements have been completed with passing grades but for some justifiable reason, acceptable to the instructor, the student has been unable to complete the full requirements of the course. Before an (I) is given, the instructor should stipulate, in writing, to the student the requirements and completion date that are to be met and the grade that will be given if the requirements are not met by the completion date. The maximum period of time allowed to clear the Incomplete grade is 12 months (except for graduate thesis and dissertation courses). If the Incomplete grade is not cleared by the date set by the instructor or by the end of the 12-month deadline, the (I) may be changed to an F or to another grade specified by the instructor. The grade of (I) is not given in lieu of an F, WP, or other grade, each of which is prescribed for other specific circumstances. If the student's work is incomplete and the quality has not been passing, an F will be given. The grade of (I) does not authorize the student to attend the course during a later semester. Graduation candidates must clear all Incompletes prior to the deadline in the official University Calendar, which may allow less time than 12 months. Failure to do so can result in removal from the degree candidacy list and/or conversion of the (I) to the grade indicated by the instructor at the time the (I) was given.

## Statement Regarding Disability

Disability Accommodations: If you need academic accommodations for a disability, you must first contact Ms. Rebecca Marin, Coordinator, Services for Students with Disabilities (214-768-4563), to verify the disability and to establish eligibility for accommodations. Then you should schedule an appointment with the professor to make appropriate arrangements.