University of Dayton
Dept. Electrical and Computer Engineering

ECE 561 Digital Signal Processing I (Fall 2002)

Instructor: Prof. Raúl Ordóñez, KL344-C, raul.ordonez@notes.udayton.edu.
Office Hours: Almost any time I am there, or by appointment.

Text: *Discrete-Time Signal Processing*, A. V. Oppenheim and R. W. Shafer, 2nd edition, Prentice Hall, NJ, 1999.

Grading:

Homework	□	10%
Computer projects	□	30%
Midterm exam	□	30%
Final exam	□	30%

Course Objective: This course will provide you with a fundamental understanding of discrete signals and systems, as well as with a set of important mathematical tools and concepts. Moreover, you will be able to design and implement frequency selective digital filters. The class will be complemented with a significant Matlab simulation component.

Outline of topics

1. Introduction, review, discrete-time signals and systems (Chs. 1, 2)
2. Sampling and reconstruction of signals (Ch. 4)
3. The z-transform (Ch. 3)
4. LTI system frequency analysis (Ch. 5)
5. Filter design (Ch. 7)
6. The discrete Fourier transform (DFT) (Chs. 8, 9, 10)

Miscellaneous:

- Homework will be assigned regularly and collected on the specified date. Grading will be on a 0-4 scale, where 4 represents a good effort and approach to solving each problem.
- All assignments must be completed as a course requirement; penalty for late homework will be severe. You are responsible for any and all alterations in homework assignments, exam and other dates, and course announcements in general which occur in the lecture. In other words, come to class!