Digital Filters
ECG781 Fall 2012

http://www.egr.unlv.edu/~b1morris/ecg781

Professor:	Brendan Morris	Class:	TuTh 16:00-17:15
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Textbook
Discrete-Time Signal Processing, A. Oppenheim and R. Schafer, 3rd Edition,
ISBN: 978-0-13-198842-2
Recommended Text
Schaum's Outlines: Digital Signal Processing, M.H. Hayes, ISBN: 0-07-027389-8

Grading

Quiz:	15%	9/20
Midterm:	25%	10/25
Final:	35%	12/11
Homework:	25%	Weekly

Students may study together in groups but all assignments must be completed individually. Homework will be due in class on the designated date. No late homeworks will be accepted unless prior notification and arrangements are made.

Catalog Description
Theory and applications of digital filters. Structures for discrete time systems. Finite precision numerical effects in digital systems. Finite impulse response (FIR) and infinite impulse response (IIR) digital filters designs including windowing techniques, optimization techniques, analog to discrete time transformation techniques and wave digital filters.
Prerequisites: ECG780: Digital Signal Processing

Topics

Chapter 1:	Introduction
Chapter 2:	Discrete-Time Signals and Systems
Chapter 3:	The z-Transform
Chapter 4:	Sampling of Continuous-Time Signals
Chapter 5:	Transform Analysis of LTI Systems
Chapter 6:	Structures for Discrete-Time Systems
Chapter 7:	Filter Design Techniques
Appendix A:	Random Signals and Systems
Appendix B:	Continuous-Time Filters

Additional course material not present in the textbook will be distributed to the class when needed. Extra problems can be found in the recommended texts. The Schaum's series book has a number of worked problem solutions making it a good investment.

Course Policies

- There will be no make-up exams or late homework without prior arrangements. If you have 3 final exams on the same day you may ask for a reschedule. This request must come by the last day of late registration.
- Extensions will only be granted for medical emergencies or due to the observance of a religious holiday. The instructor must be notified of the absence prior to the last day of late registration.
- If you have a documented disability that may require assistance, you will need to contact the Disability Resource Center (DRC) for coordination in your academic accommodations. The DRC is located in the Student Services Complex (SSC), Room A-143, phone 702-895-0866. Or visit the DRC website at: http://drc.unlv.edu/
- As a university student, it is your responsibility to conduct yourself ethically and with integrity as described in the Academic Misconduct Policy. Cheating and plagiarism will not be tolerated. Any student caught cheating will be given an F grade. (http://studentconduct.unlv.edu/misconduct/policy.html)