University of North Texas, College of Engineering  
Department of Electrical Engineering

EENG 5610: Digital Signal Processing

Fall 2015  
Tuesdays and Thursdays 4:00 - 5:20 PM  
Classroom: B217

Instructor

- Dr. X. Li, Office: NTRP B231, Tel: (940) 891-6875, Email: xinrong@unt.edu  
  Office Hours: Tuesday and Thursday, 2:00 - 3:00 PM  
  (Additional appointments can be requested by email.)
- TA: Venkatesh Srinivasan K, Email: VenkateshSrinivasank@my.unt.edu  
  Help Sessions: Monday and Wednesday, 12:00 - 2:00 PM

Course Description

- Introduction to modern digital signal processing theory and techniques. Includes discrete time signals and systems, sampling theorem, Z-transform, frequency analysis of signals and systems, discrete Fourier transform, fast Fourier transform algorithms, and digital filter design.

Prerequisites

- EENG 2620 or equivalent

Course Objectives

By the end of the course, you will learn

- Basic theories of digital signal processing;
- Analysis and design of digital signal processing systems and computational techniques.

Required Textbook

  Author: John G. Proakis and Dimitris G. Manolakis, Publisher: Pearson Education, Inc.  
  ISBN: 0-13-187374-1

Course Requirements and General Policies

- Class attendance is mandatory. Lectures and class discussions will contain vital information needed to do well on the exams.
- Everyone must turn in individual homework. Simply copying other's homework will be treated as a violation of academic honesty.
- Please remember to turn off phones prior to class.
- Please do not wait until the last minute. If you are having trouble with this class, please stop by my office during my office hours. I am also available by email.
Please visit http://www.unt.edu/csrr for your rights and responsibilities.

Disability Accommodation
- The University of North Texas (UNT) complies with Section 504 of the 1973 Rehabilitation Act and with the Americans with Disabilities Act of 1990. UNT provides academic adjustments and auxiliary aids to individuals with disabilities, as defined under the law. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring accommodation, please see the instructor and/or contact the Office of Disability Accommodation (http://www.unt.edu/oda) at 940-565-4323 during the first week of class. It is the responsibility of students with certified disabilities to provide the instructor with appropriate documentation from the Dean of Students Office.

Assignments and Exams
- No late assignments will be accepted and no emailed assignments will be accepted, except in extenuating circumstances. Homework is due before the class in the following week.
- Exam will be based on textbook readings, handouts, class exercises, class lectures and discussions, and homework assignments. Students are responsible for all text material, regardless of whether we review the text material in class or not.

Grading Policies
- Attendance, 10%
- Homework, 20%
- Project, 20%
- Final Exam, 50%
- There will be no extra credits.
- Final accumulated number score is on a 100 point scale.
- Final letter grade distribution: A=90-100, B=80-89, C=70-79, D=60-69, F=0-59

Course Outline and Tentative Schedule
- First Day of Class, Aug. 25, Tuesday, 4:00 - 5:20 PM
- Course Introduction;
  - Class 1: Introduction to Signals, Systems, and Signal Processing
- Class 2: Discrete-time signals and systems
- Class 3: The z-Transform and It's Applications
- Class 4: Frequency Analysis of Signals
- Class 5: Frequency-Domain Analysis of Systems
- Class 6: Sampling and Reconstruction of Signals
- Class 7: Discrete Fourier Transform
- Class 8: Implementation of Discrete-Time Systems

All course materials, including syllabus, lecture notes, homework assignments, and grades are available in Blackboard Learn at https://learn.unt.edu/
• Class 9: Design of Digital Filters
• Course project
• Final Exam, Dec. 10, Thursday, 2:00 - 4:00 PM

Useful Links
• UNT Catalogs: http://www.unt.edu/catalog/
• Office of the Registrar: http://essc.unt.edu/registrar (schedule of classes and exams, etc.)
• Eagle Student Services Center: http://essc.unt.edu/
• Blackboard Learn: https://learn.unt.edu/

Last updated: 08/20/2015