

EENG 2620: Signals and Systems

Fall 2019

Course Description: Elementary concepts of continuous-time and discrete-time signals and systems. Linear time-invariant (LTI) systems, impulse response, convolution, Fourier series, Fourier transforms and frequency-domain analysis of LTI systems. Laplace transforms, Z-transforms and rational function descriptions of LTI systems. MATLAB will be used to illustrate the concepts.

Prerequisite(s): EENG 2610; and MATH 3310 or MATH 2730

Instructor: Dr. Kamesh Namuduri, Discovery Park B234, (940) 369-8960, kamesh.namuduri@unt.edu

TA: Ms. Srijita Mukherjee, Room B245

TA's Office Hours: M/W 10 AM – 12 Noon

Class Hours: T/Th 11:30 AM to 12:50 PM, Discovery Park D 261

My office Hours: Tuesday and Thursday: 2:00 – 4:00 PM, or by appointment.

Textbook: Signals and Systems, by Alan V. Oppenheim, Alan S. Wilsky, and S. Hamid Nawab, ISBN 0-13-814757-4, second edition, Prentice Hall.

Supplemental text: MATLAB 7 R14 Student Edition.

Grading: Attendance and Participation (10%), Weekly Homework (30%), Three Exams (60%)

Syllabus

Module 1: Introduction: Types of Signals, Continuous-Time Signals, Discrete-Time Signals, Signal Energy and Power (HW-1)

Module 2: Linear Time Invariant (LTI) Systems, Convolution, Properties of LTI Systems, Causal LTI Systems (HW-2)

Module 3: The Fourier Series Representation (HW-3)

Exam I

Module 4: The Continuous-Time Fourier Transform (HW-4)

Module 5: Discrete-Time Fourier Transform (HW-5)

Module 6: Time and Frequency Characterization of Signals and Systems (HW-6)

Exam II

Module 7: Sampling (HW-7)

Module 8: Laplace Transform (HW-8)

Module 9: Z Transform (HW-9)

Final Exam

Academic Dishonesty

Any form of cheating in home works, assignments, and examinations may result in “F” grade for the entire course.

Disabilities Accommodation

The University of North Texas complies with Section 504 of the 1973 Rehabilitation Act and with the Americans with Disabilities Act of 1990. The University of North Texas 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 at 940-565-4323 during the first week of class.