

EENG 3810 Communication Systems

Spring 2020

Tues & Thurs, 11:30 AM – 12:50 P.M

Classroom: DP B227 **Instructor:** Dr. Kamesh Namuduri

Office: DP B234

Phone: 940-369-8960

Email: kamesh.namuduri@unt.edu

Office Hours: Tues/Thurs 2 PM – 4 PM or by appointment

TA: Ms. Srijita Mukherjee, B239, RoyaNorouzi@my.unt.edu

TA Office Hours: M/W 2 PM – 4 PM

Course Description

This course introduces the concepts of transmission of information via communication channels. Topics include signal and systems (Fourier analysis), amplitude and angle modulation for the transmission of continuous-time signals, analog-to-digital conversion and pulse code modulation, and the basic principles for the analysis and design of digital communication systems.

Textbooks

- Required: B.P. Lathi and Z. Ding, *Modern Digital and Analog Communication Systems*, Fifth Edition, ISBN13: 9780190686840; ISBN10: 0190686847, Oxford University Press, 2019.

Prerequisites

EENG 2620 Signals and Systems; EENG 3510 Electronics I; and MATH 1780 Probability Models or MATH 3680 Applied Statistics.

Basic MATLAB skills (recommended)

Grading Policies

Homework and MATLAB Assignments: 30% (10% **Penalty** if late for each day)

Mid-term Exams (2): each 20%

Final Exam: 20%

Class Participation (attendance and engagement in class): 10%

General Comments

- Students are encouraged to discuss class material with one another in order to better understand concepts. However, homework submitted individually. Direct or indirect copying of a solution (from friends, solution manuals, and Internet) will be considered as plagiarism and a violation of the University Honor Code. Minimum penalty for cheating is “F” grade in class.

- Homework assignments are to be turned in at the beginning of the class on the due date. Late submission (Homework and Project) will be accepted with 10% penalty for each day.
- The exams are open book with one page (8 ½ x 11) of notes. Make up exams may be given only under exceptional circumstances and with prior approval of the instructor.
- All students are responsible for announcements made in lecture, on the student access website, or via the class email list.
- It is the responsibility of students with certified disabilities to provide the instructor with appropriate documentation from the Dean of Students Office (see <http://www.unt.edu/oda>).

Class Schedule (tentative)

Week	Topics	Reading
1	Introduction, Signals, and Signal Space	Ch. 1, Ch. 2
2	Signal Space	Ch. 2 and 3
3	Fourier analysis	Ch. 2 and 3
4	Midterm I	
5	Fourier analysis	Ch. 3
6	Amplitude modulation	Ch. 4
7	Amplitude modulation	Ch. 4
8	Amplitude modulation	Ch. 4
9	Midterm II	
	Break	
10	FM and PM	Ch. 5
11	FM and PM	Ch. 5
12	FM and PM	Ch. 5
13	Sampling, PCM, Digital Communications	Ch. 6
14	Sampling, PCM, Digital Communications	Ch. 6
15	Additional Lectures	
16	Final Exam	