

EENG 3810 Communication Systems

Spring 2017

Tues & Thurs, 10:00 – 11:20 AM

Classroom: DP B227

Instructor: Dr. Kamesh Namuduri

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Office Hours: M/W 1 PM – 2 PM or by appointment

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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*, Fourth Edition, ISBN-10: 0195331451, Oxford University Press, 2009.
- **Reference:** S. Haykin and M. Moher, *Communication Systems*, Fifth edition, ISBN-10: 0471697907, Wiley, 2009.

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 and Project: 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 25% 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	Project Presentation	
16	Final Exam	