

EENG 4325
Communication Theory
Fall 2023
Syllabus

Instructor: Dr. Mahdi Ghamkhari

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Class Location: ENG 3212

Office Hours: Mondays 3:00 pm to 4:00 pm Faculty Suite – 3100 H

Prerequisites: EENG 3380

Course Description

Semester Credit Hours: 3 sch Analog and digital modulation techniques, effects of noise in modulation, signal to noise ratio, digital data transmission, probability of error, bandwidth requirements and sampling theorem.

Textbook

B.P. Lathi and Z. Ding, "Modern Digital & Analog Communication Systems", 5th edition Oxford University Press, 2018, ISBN: 9780190686840

Note: The fifth edition of the textbook will be used in the course.

Link to purchase from Amazon

https://www.amazon.com/Digital-Communication-Electrical-Computer-Engineering/dp/0190686847/ref=sr_1_1?keywords=MODERN+DIGITAL+AND+ANALOG+COMMUNICATION+SYSTEMS&qid=1692554356&sr=8-1&ufe=app_do%3Aamzn1.fos.d977788f-1483-4f76-90a3-786e4cdc8f10

Course Components

Assignments (Homework/Quizzes/Projects): 40%

Midterm Exam: 30%

Final Exam: 30%

Conversion of the numerical grade to letter grade

A: 90 – 100%

B: 80 – 89%

C: 70 – 79%

D: 60 – 69%

F: 0 – 59%

Note: Final grades will be rounded to the nearest whole number. For example, 81.5 or 81.6 would be rounded to 82, but 81.4 would be rounded to 81.

Dates

Last Day to Drop without Creating a Record: September/13th

Last Day to Drop or Withdraw: November/3rd

Guideline

- Students must have the required prerequisites of the course.
- Late submissions to the assignments are not accepted and a grade of zero will be allocated.
- Makeup exams will not be given to students who are absent from the exams.
- Canvas is the platform for course announcements and assignments.
- Announcements are made on Canvas.
- Assignments are posted on Canvas and students' responses to the assignments should be uploaded on Canvas.
- Students are highly recommended to configure their Canvas account so that they could be notified immediately once an announcement or assignment is posted.
- Students should communicate with the instructor using their UTPB Email address.
- Requests for re-grading must be received no later than one week following the return of the assignment.
- Students are encouraged to take notes from the materials presented in the class.

UTPB Student Conduct and Discipline

<https://www.utpb.edu/life-at-utpb/student-services/dean-of-students/student-conduct-and-discipline-utpb-revised-2020-final.pdf>

Attendance

Attendance in class is required.

Students with Disabilities

The University of Texas Permian Basin in compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act provides "reasonable accommodations" to students with disabilities. Only those students, who an instructor has received an official Letter of Accommodation (LOA) sent by the office of ADA for students, will be provided ADA academic accommodations.

ADA Office for Students

MR. Paul Leverington

Address: Mesa Building 4242, 4901 E. University, Odessa, Texas 79762

Phone: 4325524696

Email: ada@utpb.edu

Outline:

Week 1: Introduction

Week 2-3: Signals and Signal Space

Week 4-5: Analysis and Transmission of Signals

Week 6-7: Amplitude Modulation and Demodulation
Week 8-9: Angle Modulation and Demodulation
Week 10-11: Sampling and A/D Conversion
Week 12-13: Principle of Digital Data Transmission
Week 14-15: Review

Topics

1. Introduction
2. Signals and Signal Space
3. Analysis and Transmission of Signals
4. Amplitude Modulation and Demodulation
5. Angle Modulation and Demodulation
6. Sampling and A/D Conversion
7. Principles of Digital Data Transmission

Disclaimer

The subject matter and dates for the course may evolve slightly and should be considered tentative. Updates will be announced.

Version

08/23/2023