Prerequisites:
ELEG 6313 and ELEG 4003. (Students need to be familiar with probability and stochastic processes, and communication systems concepts.)

Textbook:
ISBN: 0072321113

References:


Instructor:
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Office Hours:
TR 2:00-4:00 PM, MW 1:00-2:00 PM, and by appointment

Lectures:
R 6:00-8:50 PM, GILC Room 104

Course Objectives:
This course focuses on principles, analysis and designs of digital communication systems. The course will cover the following topics:

- Overview of digital communication systems.
- Review of probability and stochastic processes.
- Introduction of information measures, source models, source coding, channel models, and channel capacity.
- Representation of baseband and bandpass signals and systems, and Hilbert Transform. Linear and nonlinear modulation classes, spectral analysis of digitally modulated signals.
• Digital carrier modulation and demodulation schemes. Baseband and bandpass receiver systems. Fundamentals of carrier modulation (ASK, PSK, FSK, etc.), coherent and non-coherent detection, and error performance analysis.

• Intersymbol interference (ISI) – its effect on system performance and techniques to minimize ISI.

• Equalization techniques – peak distortion and MSE criteria, decision feedback and ML sequence estimation.


Grading:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>20%</td>
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<tr>
<td>Quiz</td>
<td>10%</td>
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<tr>
<td>Midterm Exam</td>
<td>30%</td>
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<tr>
<td>Final Exam</td>
<td>40%</td>
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Homework has to be handed in one week from the date that it is assigned. Late homework will NOT be accepted unless due to acceptable reasons (as defined by University policy).

Exam Policy:

Announced quizzes (20-30 minutes) will be administered. Quiz and Exams are close-book and close-notes. However, one page note is allowed in the midterm and in the final exams. Every student must take all exams on the assigned dates. Any student who misses an exam without a valid excuse will automatically receive zero for that exam. Make-up exams will be administered in accordance with university policy.

Ethics:

Cheating or plagiarism on assignments or exams will not be tolerated. Proven cases of ethical violations will result in a zero for the assignment/exam and possibility of further disciplinary actions in accordance with university policies.

Class Attendance:

PVAMU requires regular class attendance. Attending all classes supports full academic development of each student. Excessive absenteeism may result in a student’s course grade being reduced to a grade of “F”. Accumulation of one week of unexcused absences constitutes excessive absenteeism.

Attendance Policy:

See attached University Class Attendance Policy.

Assistance:

Students with disabilities who believe that they may need an academic adjustment in this class, are encouraged to contact the Office of Disability Services at (936)857-2610/2620 as soon as possible. Once you have received a letter of adjustment from the office, kindly make an appointment with me to discuss appropriate adjustments for this class.