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E-mail: kettani@fhsu.edu
Office Hours: MWF 10am-12pm

Course Prerequisite

ISE330.

Course Description

This course introduces students to signal modulation techniques (amplitude, frequency, pulse, and pulse-code), narrow-band noise representation, signal-to-noise ratios for various modulation schemes, pulse shaping, timing recovery, carrier synchronization and equalization, sampling, quantization and coding.

Course Materials


Program Objectives

Put a table in your syllabus that maps the program objectives (MBA or BBA objectives) with the course. List every program objective. If the objective is not covered in the course, state: Not Covered. If the objective is covered, explain how (exams, homework, research papers, cases, oral presentations, Power Point lectures, etc.) This will help students understand why certain assignments are included in the course and will help us with AACSB assessment.

<table>
<thead>
<tr>
<th>Objective</th>
<th>How Objective will be Evaluated</th>
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<tbody>
<tr>
<td>An ability to apply knowledge of mathematics, science, and engineering.</td>
<td>Lecture notes, homework, quizzes and exams.</td>
</tr>
<tr>
<td>An ability to identify, formulate, and solve engineering problems.</td>
<td>Lecture notes, homework, quizzes and exams.</td>
</tr>
<tr>
<td>A knowledge of contemporary issues.</td>
<td>Lecture notes, homework, quizzes and exams.</td>
</tr>
<tr>
<td>An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.</td>
<td>Lecture notes, homework, quizzes and exams.</td>
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</table>
Course Objectives

At the conclusion of this course, the successful (passing) student will be able to:

1. Understand the application of linear system theory to the implementation of analog communication systems.
2. Produce system-level designs for modulators and demodulators for AM-Large Carrier, DSB (double sideband), 2-channel multiplexed DSB, SSB (single sideband), and FM (frequency modulation).
3. Understand the design tradeoffs for the aforementioned modulation schemes with respect to bandwidth and noise immunity.

Course Delivery and Structure

This is an on-campus course and student attendance to lectures is required. Material will be delivered through lectures, enhanced by student participation and group projects. Other evaluation methods will involve exams, quizzes and homework.

Grading and Evaluation

- Attendance, 10%,
- Three tests, 20% each,
- Homework, 10%,
- Quizzes, 20%.
- Letter grade assignment is as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>F</td>
<td>&lt; 60%</td>
</tr>
<tr>
<td>60% ≤ D &lt; 70%</td>
<td>70% ≤ C &lt; 80%</td>
</tr>
</tbody>
</table>

Course Policies

- Late Work: All assignments must be submitted on the due time. Late assignments will not be accepted.
- Make-Ups: No matter what the excuse is, there will be given no make-up to any of the assignments of this course.
- Contesting: Grades can be contested during a two-week period from the time that they were announced. After such period is elapsed, grades may not be contested.