Fall 2011

COURSE: ELCT 332, Fundamentals of Communication Systems
MWF 9:05AM- 9:55AM, SWGN 2A22

INSTRUCTOR: Dr. Guoan Wang
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TA
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TEXTBOOK:
B.P. Lathi and Zhi Ding, Modern Digital and Analog Communication Systems, Oxford

References:
1. A. Bruce Carlson and Paul B. Crilly, Communication Systems: An Introduction to Signals
ISBN-13 9780073380407

COURSE OBJECTIVES

This course provides fundamentals in analog and digital communication system analysis and
design. Through lecture and assignments, Students will be able to:
1. Analyze and design basic communications systems, particularly with application to noise-free
analog and digital communications.
2. Apply concepts and techniques from Fourier analysis and circuit analysis to communication
systems.
3. Develop the ability to compare and contrast the strengths and weaknesses of various
communication Systems and apply these concepts to solve problems in communication systems.

SYLLABUS

1. INTRODUCTION
2. REVIEW OF SIGNALS
3. REVIEW OF FOURIER ANALYSIS
4. AMPLITUDE (LINEAR) MODULATION
5. ANGLE (EXPONENTIAL) MODULATION
6. SAMPLING AND THE PULSE CODE MODULATION
7. PRINCIPLES OF DIGITAL DATA TRANSMISSION
8. SOME RECENT DEVELOPMENTS AND MISCELLANEOUS TOPICS
GRADING

<table>
<thead>
<tr>
<th>Items</th>
<th>Points</th>
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<tbody>
<tr>
<td>Homework¹</td>
<td>15</td>
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<tr>
<td>Exam 1</td>
<td>25</td>
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<tr>
<td>Exam 2</td>
<td>25</td>
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<td>Final</td>
<td>35</td>
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<td>Total</td>
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GRADING SCHEME
A=85-100%  B=75-85%  C=65-75%  D=50-65%  F=below 50%

HOMEWORK FORMAT
Problems will be presented in a Word document, in Times Roman 12 point font and written professionally with textual explanations of each step. Each problem will be in separate word document labeled with the name of the course, underscore, the name of the student, underscore, and the problem number (e.g. ELCT332_Student Name_1.1). A statement of the problem will be at the top of the page, followed by the solution.

¹ Homework is submission only—a reasonable attempt to solve each problem must be made. No late submission.