EE 650: Modern Communication Theory

Class Information

This course is intended to provide the background necessary for a career in the design and development of digital communication systems. Important topics are:

- Carrier modulation and demodulation techniques — PSK, QAM, GMSK, etc.
- Orthogonal frequency division multiplexing (OFDM)
- Multiplexing and multiple access — TDMA, FDMA and Random Access
- Spread spectrum (direct-sequence and frequency-hopping) communication
- Fading and diversity in wireless communication

Prerequisites:
EE558: Digital Communications &
EE602: Stochastic Signals.

Instructor:
Prof. Santosh Nagaraj
Office: E403-D
Email: snagaraj@mail.sdsu.edu
Phone: (619) 594-7154

Lecture Schedule:
TTh 12:30p–1:45p in NE-173.

Office Hours:
T 9:30a–11:00a
Th 9:30a–10:30a

For other times, send email for appointment.

Course Text Book:
Homework:
About 3–4 homework assignments will be assigned during the course of the semester through Blackboard. Only those assignments that are turned in by the due date will receive credit. Homework may involve a significant amount of programming.

Exams:
There will be three mid-term exams in this course; mid-terms may comprise an in-class component and a take-home component. Mid-term exam dates are given below:

Exam I September 29th, 2016
Exam II October 27th, 2016
Exam III December 8th, 2016

If you must miss an in-class exam for some reason, please inform the instructor in advance so that an early exam can be administered.

Project:
There will be a project in this course; components of the project are: a short proposal due early October, presentation in November/December and final report due in December.

Grades:
Your final grade will be determined as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Exams (20+20+20)</td>
<td>60%</td>
</tr>
<tr>
<td>Project</td>
<td>30%</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Score Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90–100</td>
<td>A/–</td>
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<tr>
<td>75–89</td>
<td>B/+</td>
</tr>
<tr>
<td>60–74</td>
<td>C/±</td>
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<tr>
<td>50–59</td>
<td>D/+</td>
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Students with Disabilities:
If you are a student with a disability and believe you will need accommodations for this class, it is your responsibility to contact Student Disability Services at (619) 594-6473. To avoid any delay in the receipt of your accommodations, you should contact Student Disability Services as soon as possible. Please note that accommodations are not retroactive, and that accommodations based upon disability cannot be provided until you have presented your instructor with an accommodation letter from Student Disability Services. Your cooperation is appreciated.