This course provides a general overview of communication theory and addresses fundamental concepts in this field. After a review of signals and systems representations, various continuous and digital modulation schemes are analyzed. Spread spectrum systems and their application to multiuser communications are also addressed.

Fall, 3 credits, grading ABCF.

TEXTBOOK:
   ISBN: 978-0-07-338040-7

GRADING POLICY:

<table>
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<tr>
<th>Component</th>
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<td>Mid-term</td>
<td>40%</td>
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<td>Final</td>
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<tr>
<td>Projects</td>
<td>20% [MATLAB assignments]</td>
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Topics:

1. Representation of signals and systems
2. Signal transmission and filtering
3. Linear CW modulation
4. Angle modulation
5. Sampling and pulse modulation
6. Analog communication systems
7. Probability theory and random processes
8. Noise in CW modulation systems
9. Spread spectrum systems

LEARNING OUTCOMES:

Understanding and proficiency in the following concepts:
✓ Frequency representation of analog signals
✓ Analog modulation techniques
✓ Analog demodulation techniques
✓ Communication system design

SPECIAL PROVISIONS FOR ONLINE OFFERING:

- Lectures will be delivered using SBU’s Zoom account at the scheduled time.
- You will require a reliable internet connection with both audio and video connection to the Zoom meeting.
- All course related material and lecture slides will be posted on Blackboard.
- The mid-term and Final examinations will be given at the scheduled time. During the examination period you will need to be in view of the live camera feed.
- Office hours will be held synchronously at the scheduled time.

NOTICE

If you have any condition, such as a physical or mental disability, which will make it difficult for you to carry out the work as I have outlined it or which will require extra time on examinations, or any other concerns regarding the online delivery of the course, please contact me harbans.dhadwal@stonybrook.edu.