

Utah State University

ECE 5660

Communication Systems I

Syllabus - Spring 2017

Course Title: Communication Systems I

Instructor: Trevor Landeen

Office: Sant 210

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Class Time: MWF 8:30-9:20, EL 109

Office Hours: MW 9:30 - 11:00, and others by appointment

Prerequisite: ECE 3640 and Math 5710

Textbook: *Digital Communications: A Discrete Time Approach* ISBN: 0-13-601380-5

Course Summary: This course is an introduction to digital communication systems. We will analyze and characterize continuous-time and discrete-time models for communication over additive white Gaussian noise channels. Symbol timing recovery and carrier recovery will be covered.

Expectations Students in this course are both seniors and graduate students and will be treated as such. Solutions to homework problems, simulations, and exams may not be immediately related to examples presented in lectures and will require students to think. The lectures will focus on fundamental ideas, theories, and approaches. Homework, simulations, and exams will require students to apply the fundamentals to solve problems not individually addressed in lectures.

Exams: One midterm and a final will be given. Questions on exams may be taken from material covered in lectures, computer assignments, the textbook, or supplementary material discussed in class.

Homework Homework assignments will be given approximately weekly and will be posted to Canvas. These assignments will involve traditional pencil-paper work and will also involve computer programming for simulation.

Help Session: A help session will be held. Fridays 9:30-10:20 in EL109

Late Policy: Absolutely no late work will be accepted without *prior* consultation with the instructor. Work that is not turned in on time without approval will not be scored.

Working Together Working together is permitted and encouraged. Students may benefit while discussing concepts and working together, but they may also be disadvantaged. Each student is expected to turn in their own work, their own writing, and their own understanding. All code must be your own. Do not borrow, copy, or download from others.

Cheating: Don't do it! The instructor reserves the right to fail any student who can be justifiably accused of cheating. Work with evidence of cheating will be given a score of 0.

Simulation Software: In this course we will simulate communication systems. Students can use any software they wish for these simulations. In the past most students have used Matlab. Other options for simulation include C/C++, Python, and so on. The College of Engineering has licenses to Matlab. These are available in computer laboratories in the department and college. If using a language other than Matlab, please clear it with instructor first.

Disabilities In cooperation with the Disability Resource Center, reasonable accomodation will be provided for qualified students with disabilities. Please meet with the instructor during the first week of class to make arrangements.

Grading The scores will be weighted as follows:

Homework	25%
Programming	25%
Midterm	25%
Final	25%

And grades will be given as follows:

A	>93%
A-	>90%
B+	>87%
B	>84%
B-	>80%
C+	>77%
C	>74%
C-	>70%
D+	>67%
D	>64%
D-	>60%
F	<60%