Syllabus– ECE 4710 – Communications
Fall– 2014

Catalog Description: To provide familiarity with the probabilistic concepts of communications theory; to acquaint students with basics of communication link calculations; to provide an understanding of the fundamentals of analog and digital communications; and to bring student to current state-of-technology in aspects of communication engineering via class presentations by practitioners.

Prerequisites: Signals and Systems, Probability

Textbook: *Digital and Analog Communication Systems*, L. Couch, Eighth Edition

References (on reserve): *Principles of Communications*, Ziemer and Tranter
Probability and Statistics, Schaum's Outline Series

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Topic Coverage (not day-by-day sequence:)

Overview of Communication System Design	1
Signals and Systems Review, (Chap 2)	1 (plus extra session)
Sampling, A/D Conversion, (Chap 3)	1
Baseband Signalling, Line Codes, ISI, (Chap 3)	2
Bandpass Signalling, Signal Representation, (Chap 4)	2
Amplitude and Angle Modulation, (Chap 5)	4
Random Processes, Noise, (Chap 6)	4
Performance in Noise, (Chap 7)	6
Link Analysis, (Chap 8-6)	3
Quizzes	2

Assessment:
Homework 22%
Quizzes (2) (one take-home) 45%
Final Exam 30%
Instructors' Reserve Fund 3%

Note re Communication Systems Laboratory: Students taking this class need not take the accompanying lab ECE 4715; those registered for the lab must register for ECE 4710.