ET 444 Telecommunications
Syllabus

The field of telecommunications is very broad and daily becomes more complex. Therefore the object of this course is to give a general introduction to the topic of telecommunications and then let the student focus on one optional project for further study. This optional project will consist of a working model and a paper.

The heart of this course is an AM/FM radio receiver (Elenco Model AM/FM-108K or Graymark 542 AM/FM.) These kits are challenging and require many weeks to complete. The student must solder many components and then use test equipment including the oscilloscope, RF generator, signal generator, power supply, voltmeter and ammeter. The kit includes a manual with assembly and test instructions as well as AM/FM theory.

Once the required project is completed, the student is free to work on an optional project and paper. After the project is completed and working correctly, it will be demonstrated to the whole class in an informal presentation.

For the majority of time, the student will work independently on the required and optional projects. But with the demonstration of the optional project, the student will help the rest of the class to observe the many different facets of electronic communication.

Cheating and plagiarism will not be tolerated in this course. Any individual caught cheating on quizzes, homework, lab projects, or the final exam will be punished to the full extent allowed under University regulations. Plagiarism on papers or assignments is not acceptable and work that is plagiarized will not receive credit. Plagiarism is considered cheating. Note: Any time another person's work is used without giving them proper credit, it is considered plagiarism and cheating. At a minimum, any student caught cheating will receive no credit for the work concerned, and will receive a reduction of one letter grade from their final course grade. The official CSULB Policy on Cheating and Plagiarism can be found here: http://web.csulb.edu/divisions/aa/catalog/current/academic_information/cheating_plagiarism.htm

The following page contains more details on this course and also information on grading policy. As with all courses, there are homework assignments which are to be handwritten; tests and readings from a textbook. Because of the hands-on nature of this class, it is best if the students supplies certain small tools and a soldering iron; but more information will be given on the first day of class.

ET 444 Telecommunications

Text Book: Electronic Communication Systems
William Schweber
ISBN: 0-13-091621-8

Digital Signal Processing Teaching Kit

Grades will be based on attendance, homework, tests and projects as follows:

Attendance:	20%
Homework:	20%
Tests (2)	20%
Projects (1)	20%
Optional Project(1)	20%
Total:	100%

Letter Grades are as follows:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
00-59%	F

Topics

Ch. 1 Electronic Spectrum
- Sec. 1-2 Prob. 1,3,5,7
- Sec. 1-4 Prob. 1,3,5,7

Ch. 2 Fourier and Spectrum Analysis
- Sec. 2-3 Prob. 1,3,5
- Sec. 2-6 Prob. 1

Ch. 3 Decibels and Noise
- Sec. 3-2 Prob. 1,3,5,7
- Sec. 3-3 Prob. 1,3

Ch. 4 Amplitude Modulation
- Sec. 4-2 Prob. 1,3
- Sec. 4-3 Prob. 1,3,4,6
- Sec. 4-5 Prob. 1

Ch. 5 Receivers for AM
- Sec. 5-3 Prob. 1
- Sec. 5-4 Prob. 1
- Sec. 5-5 Prob. 1,3

Ch. 6 Frequency and Phase Modulation
- Sec. 6-2 Prob. 1,4,5, 8

Ch. 7 Wire and Cable Media
- Sec. 7-2 Prob. 1,3
- Sec. 7-3 Prob. 1,3,5

Ch. 8 Transmission Lines
- Sec. 8-1 Prob. 1,5,6
- Sec. 8-3 Prob. 1,3,5
- Sec. 8-4 Prob. 1,3,4,5

Ch. 9 Propagation and Antennas
- Sec. 9-2 Prob. 1,3
- Sec. 9-3 Prob. 1,3
- Sec. 9-6 Prob. 1,3
- Sec. 9-7 Prob. 1,5

Ch. 10 Digital Information
- Sec. 10-2 Prob. 3
- Sec. 10-3 Prob 1,3

Ch. 11 Digital Communications Fundamentals
- Sec. 11-2 Prob. 3,5
- Sec. 11-3 Prob. 3,4

Ch. 12 Digital Communications Systems
- Sec. 12-2 Prob. 2
- Sec. 12-3 Prob. 1
- Sec. 12-4 Prob. 1,3,5

Ch. 13 Digital Modulation
- Sec. 13-1 Prob. 1,3
- Sec. 13-3 Prob. 1, 3, 5

Projects

1. AM-FM Radio: Elenco Model AM/FM-108K