Course Syllabus
ELC 214 Communication Systems I

Semester and year: 
Course Number: 
Meeting Times and Locations:

Instructor: 
Office Location: 
Phone: 
Office Hours: 
Email Address:

COURSE TITLE: ELC-214 Communication Systems I
COURSE CREDIT: 4 Credits
COREQUISITE: ELC-204, Electronics II
COURSE DESCRIPTION: Communication Systems I emphasizes the application of electronic communication theory to practical systems. This first course of a two-course sequence covers AM and FM systems, television, and telephony. Digital and data communication will be introduced, and continued in Communication Systems II.

SPECIFIC OBJECTIVES: 1. To balance enough detail with practical skills to enable the student to do useful work in the field.
2. To consider the elements common to all electronic communication systems, a transmitter, a receiver, and a communications channel, and to investigate the various ways of implementing each of these three basic elements.

2. Laboratory Manual for above text.

SYLLABUS: 1. Introduction: Modulation, multiplexing, bandwidth, frequency bands, time and frequency domains, noise, test equipment.
2. Radio-Frequency Circuits: High-frequency effects, RF amplifiers, multipliers, oscillators, mixers, and synthesizers.
3. Amplitude Modulation: Time and frequency domains, RMS and peak voltages and currents, quadrature.
4. AM Transmitters: Spectral purity, power output, efficiency, modulation, stages, output impedance matching, AM citizens’ band, AM stereo.
5. AM Receivers: Types, characteristics, variations, transceivers, troubleshooting.
8. FM Equipment: Transmitters, receivers and transceivers.
9. Television: Video and sound signals, broadcasting and receiving, test equipment and troubleshooting, cable and high-definition TV.
10. Telephone Systems: Switched networks, frequency-division multiplexing
12. Data Transmission: Data coding, error detection and correction, data compression.

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