

COURSE SYLLABUS

LAST REVIEW	Fall 2021
COURSE TITLE	Electronic Communication Systems
COURSE NUMBER	ELEC-0225
DIVISION	Math, Science, Business & Technology
DEPARTMENT	Electronics Technology
CIP CODE	15.0303
CREDIT HOURS	4
CONTACT HOURS/WEEK	Class: 3 Lab: 2
PREREQUISITES	ELEC-0210 AC Circuits, ELEC-0212 Semiconductor Devices
COREQUISITES	
COURSE PLACEMENT	Students must meet the correct placement measure for this course. Information may be found at: https://www.kckcc.edu/admissions/information/mandatory-evaluation-placement.html

COURSE DESCRIPTION

This course explores how information signal is transmitted and received in communication systems. The emphasis throughout the course is on developing the ability to describe and analyze the various aspects of communication systems.

TEXTBOOKS

<http://kckccbookstore.com/>

METHODS OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE

- I. Introduction to Basic Analog and Digital Communication Systems
- II. The Electromagnetic Spectrum and Spectrum Analysis
- III. Wavelength, Frequency and Propagation Velocities
- IV. Low and High Frequency Transmitters
- V. Basic AM Radio Receivers
- VI. The Super-Heterodyne AM and FM Radio
- VII. Frequency Generation Methods
- VIII. Basic Analog and Digital Television
- IX. Transmission Lines
- X. Antenna Types and Characteristics
- XI. Communication Networks
- XII. Global Positioning Systems (GPS)

COURSE LEARNING OUTCOMES AND COMPETENCIES

Upon successful completion of this course, the student will:

- A. Be able to describe broad issues in communication systems.
- B. Be able to explain the electromagnetic spectrum and frequency allocations in modern communications.
- C. Be able to calculate wavelength, frequency and propagation velocity.
- D. Be able to analyze low and high level transmitters.
- E. Be able to demonstrate sections of a basic AM and FM radio system.
- F. Be able to demonstrate the functions of the major sections of a super-heterodyne radio.
- G. Be able to state the need for systems used for frequency generation.
- H. Be able to describe the evolution of television from analog to digital.
- I. Be able to identify by physical appearance the various wires and cables used in the transmission of electronic signals.
- J. Be able to describe how an antenna radiates or captures electromagnetic energy.
- K. Be able to describe the basics of telephony, cellular and data communications.
- L. Be able to define essential Global Positioning System (GPS) terminology and describe basic operation.

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES

Assessment methods may include, but are not limited to, the following: Homework, Assignments, Quizzes, Class Participation, Chapter Tests, and Final Exam. The grading scale and the process for calculating the course grades are to be determined by the individual instructors. This information will be included in each instructor's syllabus.

COLLEGE POLICIES AND PROCEDURES

Student Handbook

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

College Catalog

<https://www.kckcc.edu/academics/catalog/index.html>

College Policies and Statements

<https://www.kckcc.edu/about/policies-statements/index.html>

Accessibility and Accommodations

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>.