

**NEWARK COLLEGE OF ENGINEERING**

**SYLLABUS AND COURSE INFORMATION**

- Course Name:** Introduction to Communication Systems
- Course Number:** ECET 214
- Course Structure:** 2-2-3 (lecture hr/wk – lab hr/wk – course credits)
- Course Description:** A study of amplitude modulation, frequency modulation, and pulse modulation systems of transmission and reception, including applications of these systems in radio, television and telemetry. Introduces the latest digital communications theory and applications. Computer simulation and laboratory experiments are designed to support the theory and obtain measurement skills.
- Prerequisites:** ECET 202 or ECE 232
- Corequisites:** ECET 205
- Required, Elective, or Selected Elective:** Required
- Required Materials:** **Text:** Name: Modern Electronic Communication  
Author: Beasley and Miller  
Year: 2007  
ISBN: 978-0-13-225113-6
- Course Outcomes:** By the end of the course students are able to:
1. Describe a basic communication system and the need for modulation
  2. Define electrical noise and explain its effect a receiver
  3. Understand circuits used to generate AM/FM
  4. Analyze various power, voltage, and current calculations in AM/FM systems
  5. Define the sensitivity and selectivity of a radio receiver
  6. Analyze the operation of a complete AM/FM transmitter/receiver system
  7. Understand the basic principles, benefits, and drawbacks of digital baseband and bandpass communication systems
  8. Perform measurements of AM/FM Transmitter/Receiver using multimeters, oscilloscopes, and spectrum analyzers
  9. Perform a test analysis on the power levels (dBm) at each stage of AM/FM transmitters/receivers system
  10. Discuss various types of SSB and explain their advantages compared to AM
  11. Explain how a PLL can be used to generate FM
  12. Describe the basics of a wireless digital communications link

