ELEC 1220: Electronic Communications

A. COURSE DESCRIPTION

Credits: 2
Lecture Hours/Week: 1
Lab Hours/Week: 2
OJT Hours/Week: *. *
Prerequisites: None
Corequisites: None
MnTC Goals: None

This course presents an overview of electronic communication systems and principles. Amplitude Modulation, Frequency Modulation, and Multiplexing Fundamentals. Practical experiments will reinforce many points presented in Electronics Communications. (Prerequisites: ELEC1202, ELEC1204) (2 credits: 1 lecture/1 lab)

B. COURSE EFFECTIVE DATES:  10/14/1998 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Describe AM signal characteristics
2. Describe FM signal characteristics
3. Build an AM modulator
4. Build an FM modulator
D. LEARNING OUTCOMES (General)
   1. Describe communication systems
   2. Measure percent of modulation
   3. Define radio frequency bands
   4. Analyze AM waveforms
   5. Analyze the modulation process
   6. Construct demodulator circuit
   7. Describe AM signal characteristics
   8. Describe FM signal characteristics
   9. Analyze demodulated signals
  10. Construct a FM generator
  11. Describe RF wave propagation
  12. Construct a PLL demodulator
  13. Describe transmitter components
  14. Describe receiver specifications
  15. Analyze AM receiver block diagrams
  16. Analyze detector circuits
  17. Classify amplifier circuits
  18. Analyze multiplex signals
  19. Analyze FM receiver block diagrams
  20. Analyze FM receiver schematics
  21. Describe a data communications system
  22. Analyze FSK demodulated signals
  23. Describe pulse modulation
  24. Describe multiplexing systems
  25. Describe the benefits of a LAN
  26. Describe transmission lines
  27. Identify antennas
  28. Describe Topologies
  29. Describe television transmission
  30. Analyze benefits of e-Business
  31. Identify network hardware
  32. Identify communication equipment

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted