

Minnesota State College Southeast

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