ELEC 1204: Introduction to AC Electricity

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 covers the general information, theory, and problem-solving techniques required for an analysis of AC circuits. Topics include: AC waveforms, oscilloscope operation, meter measurements, and AC vs. DC comparisons. (Prerequisites or Concurrent: ELEC1202, proficiency in basic math)

(2 credits: 1 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 02/11/2004 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Analysis of AC circuits
2. Describe AC waveforms
3. Operate an Oscilloscope
4. Operate a signal generator
5. Describe transformer operation
D. LEARNING OUTCOMES (General)
   1. Identify wave forms
   2. Describe magnetism
   3. Determine wave form period
   4. Measure wave forms
   5. Calculate wave form frequency
   6. Operate an oscilloscope
   7. Operate function generators
   8. Test inductors
   9. Convert wave form values
  10. Test capacitors
  11. Explain trigonometric functions
  12. Identify relay circuit
  13. Identify filter circuits
  14. Apply safety practices
  15. Determine phase relationship
  16. Construct RC circuits
  17. Define capacitance
  18. Describe capacitor characteristics
  19. Identify RC circuits
  20. Describe inductor characteristics
  21. Identify RL circuits
  22. Calculate RL circuit parameters
  23. Describe transformer operation
  24. Describe types of filters

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

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted