Minnesota State College Southeast

AUTO 1210: Introduction to DC Electricity

A. COURSE DESCRIPTION

   Credits: 2
   Lecture Hours/Week: 2
   Lab Hours/Week: *.*
   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 DC circuits. Emphasis on the meter measurements, current flow, and voltage division. (Prerequisite: Proficiency in basic math) (2 Credits: 2 lecture/0 lab)

B. COURSE EFFECTIVE DATES: 12/22/2004 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

   1. Safety Requirements
   2. Analysis of DC Circuits
   3. Meter Measurements, Current Flow, and Voltage Division
D. LEARNING OUTCOMES (General)
   1. Identify safe working conditions
   2. Demonstrate safety habits
   3. Identify electrical flow
   4. Describe electrical circuits
   5. Describe generation of electricity
   6. Operate a digital meter
   7. Construct circuits
   8. Identify electrical components
   9. Identify parallel circuits
  10. Measure voltage
  11. Measure current
  12. Measure resistance
  13. Determine voltage polarities
  14. Identify electrical symbols
  15. Describe types of voltage sources
  16. Identify open and closed circuits
  17. Describe electronic terms
  18. Compare conventional and electron current
  19. Describe factors affecting resistance
  20. Define work, energy, and power
  21. Identify resistor values
  22. Convert numbers to scientific notation form
  23. Convert numbers to metric prefixed form
  24. Calculate circuit values using Ohm's law
  25. Calculate resistor power dissipation
  26. Identify device limitations
  27. Identify series circuits
  28. Locate in series circuits shorts and opens
  29. Solve for parallel circuit parameters
  30. Locate in parallel circuits shours and opens
  31. Identify series-parallel circuits
  32. Solve for series-parallel circuit parameters
  33. Identify bridge circuits
  34. Identify voltage divider circuits

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

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted