

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 shorts 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