

Minnesota State College Southeast

ELEC 1202: Introduction to DC 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 DC circuits with emphasis on the meter measurements, current flow, and voltage division. (Prerequisite: Proficient in basic math) (2 credits: 1 lecture/1 lab)

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

C. OUTLINE OF MAJOR CONTENT AREAS

1. Calculate circuit values using Ohm's Law
2. Calculate circuit values using power formulas
3. Identify a series circuit
4. Identify a parallel circuit
5. Identify a series-parallel circuit

D. LEARNING OUTCOMES (General)

1. Describe requirements management
2. Demonstrate safety habits
3. Identify electrical flow
4. Describe electrical circuits
5. Describe generation of electricity
6. Operate 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 opens and shorts
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