

# Dakota County Technical College

## ELEC 1110: D.C. Electricity Theory and Lab

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 1

Lab Hours/Week: 2

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course covers investigation of direct current and its behavior in series, parallel, and series/parallel circuits; measuring devices and components; and electromagnetism.

Prerequisites: None.

**B. COURSE EFFECTIVE DATES:** 01/13/2003 - Present

**C. OUTLINE OF MAJOR CONTENT AREAS**

#### **D. LEARNING OUTCOMES (General)**

1. Analyze parallel circuit
2. Analyze parallel circuits with Ohm's Law
3. Analyze series circuit
4. Analyze series circuits with Ohm's Law
5. Analyze series parallel circuits
6. Analyze voltage and current circuits
7. Calculate parallel circuit current
8. Calculate power dissipation
9. Calculate series circuit current
10. Calculate series circuit resistance
11. Calculate series circuit voltage
12. Calculate series parallel circuit voltage
13. Define Kirchoffs laws
14. Define Ohm's law
15. Define parallel circuit
16. Define resistance
17. Define series circuit
18. Demonstrate electrical safety
19. Describe ammeter
20. Describe atomic theory
21. Describe capacitors
22. Describe digital meter
23. Describe electrical power
24. Describe inductors
25. Describe magnetism
26. Describe voltmeter
27. Explain current flow
28. Explain electricity and magnetism relationship
29. Identify digital meter controls
30. Identify ohmmeter controls
31. Identify voltmeter controls
32. Read resistor color code
33. Test series circuit
34. Use DC power supply
35. Use digital meter
36. Use voltmeter

#### **E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

None

#### **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted