

# Dakota County Technical College

## **BMET 1112: DC Electricity**

### **A. COURSE DESCRIPTION**

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 1

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course is designed to investigate the direct current and voltage behavior of series and parallel circuits, using Ohm's and Watt's laws. Natural and direct current electromagnetism will also be presented.

Students will perform lab projects on all subject matter by use of an interactive lab network computer.

Prerequisites: None.

**B. COURSE EFFECTIVE DATES:** 08/21/2006 - Present

**C. OUTLINE OF MAJOR CONTENT AREAS**

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

1. Analyze parallel circuit
2. Analyze series circuit
3. Construct series circuit
4. Define Kirchhoff's current laws for a series circuit
5. Define Kirchhoff's voltage laws for a parallel circuit
6. Define Kirchhoff's voltage laws for a series circuit
7. Define current laws series circuits
8. Define parallel circuit
9. Define resistance
10. Define series circuit
11. Demonstrate electrical safety
12. Demonstrate proper use of the oscilloscope
13. Describe Atomic theory
14. Describe electrical safety
15. Describe voltmeter
16. Explain current flow
17. Identify voltmeter controls
18. Read resistors using color code
19. Use DC power supply
20. Use voltmeter
21. Analyze magnetic fields
22. Analyze maximum power transfer
23. Analyze parallel circuits with conductance
24. Analyze parallel circuits with ohm's law
25. Analyze parallel circuits with product of sum
26. Analyze series circuits with ohm's law
27. Analyze series parallel circuits
28. Analyze voltage and current circuits
29. Calculate series circuit current
30. Calculate series circuit resistance
31. Calculate series circuit voltage
32. Compute power circuits
33. Construct parallel circuits
34. Construct series parallel circuits
35. Define ohm's law
36. Demonstrate operation of relays
37. Describe DC generators operation
38. Describe ammeter
39. Describe electrostatic fields
40. Describe magnetism
41. Describe ohmmeter
42. Describe power
43. Explain electricity and magnetism relationships
44. Identify ammeter controls

45. Identify ohmmeter controls
46. Use ammeter
47. Use ohmmeter

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

None

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted