

# Dakota County Technical College

## **ELEC 2220: Electrical/Electronic Controls and Systems Theory**

### **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 analysis and troubleshooting of logic controllers, AC and DC electronic drives, energy management systems, heating and cooling systems, fire alarm and security systems, and integrated voice/video/data and infrared systems. Prerequisites: ELEC2130, ELEC2140.

**B. COURSE EFFECTIVE DATES:** 03/09/2003 - Present

**C. OUTLINE OF MAJOR CONTENT AREAS**

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

1. analyze fire alarm programming
2. analyze security systems
3. calculate the lay out of fire alarm systems
4. calculate
5. define DC drives
6. define fire alarm system
7. define infer-red systems
8. define types of security systems
9. describe fire alarm system
10. describe infer-red systems
11. describe security systems and uses
12. determine lay out of security systems
13. Describe DC drives and usage
14. Program Energy Management systems
15. analysis AC drives
16. analysis DC drives
17. analyze Energy Management systems
18. analyze HVAC
19. analyze programmable logic controllers programming
20. calculate HVAC systems
21. define AC drives
22. define Energy Management systems
23. define HVAC (heating, ventilating, air conditioning)
24. define programmable logic controllers
25. describe AC drives
26. describe programmable logic controller

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

None

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

As noted on course syllabus

#### **G. SPECIAL INFORMATION**

None noted