

# Dakota County Technical College

## **ELEC 2230: Electrical/Electronics Controls and Systems Lab**

### **A. COURSE DESCRIPTION**

Credits: 4

Lecture Hours/Week: \*.\*

Lab Hours/Week: 4

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course covers analysis and troubleshooting of programmable 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:** 01/13/2003 - Present

**C. OUTLINE OF MAJOR CONTENT AREAS**

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

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

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

None

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

As noted on course syllabus

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

None noted