

# Dakota County Technical College

## ELEC 1140: Blueprint Reading for Technicians

### 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 investigates blueprint reading for electricians. This course consist of basic sketching and drawing techniques, applications of plans, scales and scaling applications, symbology, and print reading.  
Prerequisites: None.

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

**C. OUTLINE OF MAJOR CONTENT AREAS**

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

1. Convert between orthographic and isometric drawings
2. Explain why the electrical worker needs to understand mechanical symbology
3. Gather required information from a variety of industrial plans and elevations
4. Identify and give the function of the basic drawing tools
5. Read and gather necessary information from a given set of industrial specifications
6. Read and gather required data from feeder riser diagrams
7. Read and gather required data from legends and schedules
8. Recognize and identify common PLC and motor control symbols
9. Recognize and identify common hydraulic and pneumatic symbols
10. Recognize and identify common process control and instrumentation symbols
11. Recognize and identify common structured wiring and telecommunication symbols, block diagrams, and pin diagrams
12. Recognize and identify the application and function of different line types used in drawing
13. Recognize and identify the common electrical and electronic symbols
14. Recognize and identify the various prints used on a residential project
15. Recognize and interpret various common plumbing, piping and HVAC symbols
16. Recognize and label the views on orthographic and isometric drawings
17. Recognize and select the proper scale for the appropriate task
18. Scale a drawing accurately
19. Sketch lines, arcs, circles and shapes freehand
20. Sketch simple orthographic and isometric drawings
21. Understand function of addendums and revisions
22. Understand the function of plans and elevations
23. Understand the function of schedules and specifications
24. Understand the function of section views
25. Understand the function of sections and details
26. Understand the function, location and use of symbols
27. Understand the rules and concepts of print dimensioning
28. Utilize plans and elevations to determine device placement and electrical service location
29. Utilize plans to do device take off and practice the cost-estimation process

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

None

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

As noted on course syllabus

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

None noted