

# Dakota County Technical College

## WELD 1200: Print Reading II

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

After proper instruction the student will demonstrate use of the American Welding Society Welding Symbol to industry standards. The student will have instruction on proper interpretation of joint design of welding symbols. After proper instruction the student will have working knowledge of prints and drawings. Instruction will be given to the student on proper forming and cutting practices. Classification of base materials and wire will be emphasized. Prerequisites: Print Reading I

**B. COURSE EFFECTIVE DATES:** 08/27/2012 - Present

**C. OUTLINE OF MAJOR CONTENT AREAS**

**D. LEARNING OUTCOMES (General)**

1. Review types of fabrication drawings.
2. Filler metal specifications for weldments.
3. Understand base metal specifications.
4. Practice AWS symbols interpretations.
5. Understand geometric form & position tolerances.
6. Practice reading assembly drawings.
7. Practice reading machining drawings.
8. Practice reading tooling drawings.
9. Review machining drawings.
10. Review assembly drawings.
11. List AWS FCAW filler wire print designations.
12. List AWS GTAW filler wire print designations.
13. List AWS GMAW filler wire print designations.
14. Explain SAE/AISI steel classification number system.
15. Explain ASTM steel classification number system.
16. Sketch and interpret AWS groove weld symbols.
17. Sketch and interpret AWS fillet weld symbols.
18. Sketch and interpret AWS plug/slot weld symbols.
19. Sketch and interpret AWS spot weld symbols.
20. Explain v-groove  $\zeta$ effective throat $\zeta$  specifications.
21. Explain v-groove size specifications.
22. Explain v-groove profile symbol specifications.
23. Explain v-groove side of joint designation.
24. Explain v-groove melt-through specifications.
25. Explain fillet leg size specifications.
26. Explain fillet bead profile symbols specifications.
27. Sketch and interpret J-groove symbols.
28. Sketch and interpret edge flange symbols.
29. Sketch and interpret corner flange symbols.
30. Sketch and interpret flare-v symbols. .
31. Explain components of multi-line AWS symbols.
32. Explain components of NDT symbols added to weld symbols.
33. Practice bill of materials computations and costs.
34. Interpret full section views.
35. Interpret half section views.
36. Interpret partial section views.
37. Interpret revolved section views.
38. Practice bill of materials for weldment drawings.
39. Practice bill of materials for assembly drawings.
40. Practice bill of materials for fabrication drawings.
41. Practice bill of materials for machining drawings.
42. Define fillet weld size -  $\zeta$ effective throat measurements. $\zeta$
43. Define fillet weld size: theoretical throat measurements.
44. Define fillet weld size: actual throat measurements.

45. List AWS ¿non-preferred symbols.¿
46. Sketch basic detail drawings
47. Sketch advanced detail drawings
48. Sketch basic assembly drawings
49. Sketch advanced drawings
50. Understand theory of operation in-shop cutting tools
51. Understand theory of operation field cutting tools
52. List sheet and plate cutting practices
53. List structural shapes cutting practices
54. List tube and pipe cutting practices
55. Understand theory of operation in-shop forming tools
56. Understand theory of operation field forming tools
57. List sheet and plate forming practices
58. List structural shapes forming practices
59. List tube and pipe forming practices

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

None

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted