

# Dakota County Technical College

## ABCT 1111: Collision Repair Welding I

### A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: 1

Lab Hours/Week: 1

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course covers welding safety, familiarization with oxyacetylene equipment and MIG welder operations.

Prerequisites: None.

**B. COURSE EFFECTIVE DATES:** 08/19/2002 - Present

**C. OUTLINE OF MAJOR CONTENT AREAS**

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

1. Describe welding safety
2. Store, handle, and install gas cylinders
3. Protect adjacent areas from welding operations
4. Describe different welding methods
5. Describe proper procedures to protect onboard electronics
6. Identify weldable and non-weldable material
7. Describe metal preparation procedures
8. Prepare metal for welding
9. Describe welding positions
10. Describe weld joints
11. Determine welder type, wire, and gas requirements
12. Describe proper MIG gun angle and direction of travel for various weld joints.
13. Identify causes of weld defects
14. Determine work clamp location and attach.
15. Set up gas welding equipment
16. Describe MIG welder tip burn back, wire feed failure, and birdnesting.
17. Perform gas cutting
18. Perform gas puddles weld
19. Perform gas lap weld
20. Perform gas outside corner weld
21. Describe brazing
22. Perform braze lap weld
23. Set up MIG welding equipment
24. Adjust MIG welding equipment
25. Perform continuous MIG flat beads weld
26. Perform MIG flat lap weld
27. Perform MIG flat butt weld
28. Perform MIG flat plug weld
29. Perform MIG horizontal lap weld
30. Perform MIG horizontal butt weld
31. Perform MIG horizontal plug weld
32. Perform MIG vertical lap weld
33. Perform MIG vertical butt weld
34. Perform MIG overhead lap weld
35. Perform MIG overhead butt weld
36. Perform MIG overhead plug weld
37. Perform, on vehicle, 12 MIG lap welds
38. Perform, on vehicle, 20 MIG plug welds
39. Perform, on vehicle, 4 butt joint with backing welds
40. Perform, on vehicle, 2 MIG stitch welds
41. Perform, on vehicle, 2 MIG skip welds
42. Use weld through coating
43. Perform 2 thick metal lap welds
44. Perform 2 thick metal butt joint with backing welds

45. Weld damaged/torn sheet metal

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

None

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted