

# Minnesota Articulated College Credit (ACC) Agreement

[www.CTEcreditMn.com](http://www.CTEcreditMn.com)

## Agreement Name Related Welding

Agreement Last Reviewed **Fall 2024**

Next Review Date **Fall 2026**

**Credits are valid for 2 years upon high school graduation.**

College Courses				
Class	Title	School	Credits	
AGRI 2222	Current Technical Competencies	Minnesota West Community & Technical College	1.0	of 3.0
WELD 1190	Welding Principles	Minnesota West Community & Technical College	1.0	of 3.0
WELD 1190	Fundamentals of Welding	Ridgewater College	1.0	of 3.0
WELD 1002	SMAW-Shielded Metal Arc Welding	Rochester Community & Technical College	1.0	of 3.0
WELD 1004	GMAW-Gas Metal Arc Welding	Rochester Community & Technical College	1.0	of 3.0
FST 1510	Welding Theory	Rochester Community & Technical College	0.5	of 1.0
AND				
FST 1520	Welding Equipment Repair	Rochester Community & Technical College	0.1	of 1.0
AGME 1930	Ag Welding	South Central College	1.0	of 2.0
MEAG 1500	Facility Maintenance	South Central College	1.0	of 3.0
WELD 1055	Cutting & Brazing	South Central College	1.0	of 3.0

## Curriculum Content Objectives

To receive credit, students will be introduced to 100% of the following content objectives:

1. Demonstrate proper arc and gas welding safety procedures
2. Demonstrate proper plasma-cutting safety procedures
3. Identify oxy/fuel components
4. Explain oxy/fuel cylinders/regulators/ pressures
5. Demo proper oxy/fuel setup and shut down
6. Demo proper oxy gas settings
7. Identify oxy/fuel flames
8. Oxy-fuel weld flat corner fusion
9. Oxy-fuel weld flat steel beads
10. Oxy-fuel weld flat steel butt (1 side - 5")
11. Oxy-fuel weld flat steel lap (2 side - 5")
12. Oxy-fuel weld flat tee (1 side - 5")
13. Oxy-fuel braze flat beads

14. Oxy-fuel braze flat steel lap (5")
15. Demonstrate oxy-fuel cutting
16. Define A.C. welding
17. Define D.C. welding
18. Explain straight polarity
19. Explain reverse polarity
20. Explain the electrode identification system and identify electrode size visually
21. Weld 6013 flat (1 pass lap)
22. Weld 6011 or 6010 flat (1 pass lap)
23. Weld 6013 (1 pass tee)
24. Weld 6011 or 6010 flat (1 pass tee)
25. Weld 6011, 6010, or 6013 (3 pass tee)
26. Define Gas Metal Arc Weld
27. Explain open circuit arc voltage
28. Explain arc voltage
29. Explain wire speed
30. Explain gas flow rates
31. Identify wire sizes
32. Adjust gas flow rates
33. Adjust wire feed speed
34. Adjust voltage
35. Inspect and maintain contact tip
36. Inspect and maintain the nozzle
37. Weld flat short circuit beads
38. Weld flat short circuit laps
39. Weld flat short circuit fillet tees
40. Weld flat short circuit outside corner
41. Describe plasma-cutting procedures
42. Demonstrate proper plasma cutting procedure

Individual colleges may require demonstration of knowledge and/or skills.
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## **Assessments**

Students must achieve no less than 80% or B for a final grade in the high school course to receive ACC.

## **ACC Concept**

Through Articulated College Credit (ACC), specific college curriculum content goals and assessments are embedded in participating high school career and technical education (CTE) programs as specified in this agreement. Relevant knowledge, skills, and standards are taught by qualified CTE high school instructor(s) in one or more high school courses. ACC is awarded if the student meets the college equivalency standards and later enrolls in the college(s) listed below requiring the course in a specific program.