

Minnesota

Articulated College Credit (ACC) Agreement

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Articulated College Credit Agreement

Through Articulated College Credit (ACC), specific college curriculum learning outcomes 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 course. 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.

Agreement Name: Oxy-Fuel Fuel/Thermal Welding
Agreement Reviewed/Revised: 2022 – 2023

These credits are valid for students in grades 10-12 for 5 years from the completion of this course.

College(s)	College Course(s)	College Programs	Articulated College Credit
Anoka Technical College	WELD 1004 – Oxy-Fuel Applications	Welding (A.A.S. –66 cr.) Welding Technology (Diploma – 34 cr.) Basic Welding (Cert. – 17 cr.)	1 credit of 1 total credit
	AND		AND
	WELD 1006 – Oxy-Fuel Processes		1 credit of 1 total credit
St. Cloud Technical & Community College	WELD 1515 – Thermal Welding & Cutting Processes	Welding/Fabrication Diploma (37 cr.)	2 credits of 3 credits
St. Cloud State University	ETS 1 – Technical Elective	ETS Department Majors	3 credits of 3 total credits

Oxy-Fuel Applications

Course Description

This course focuses on the hand skills, safety, and knowledge needed to be proficient with oxy-fuel brazing and oxy-fuel cutting processes. Also covered are oxy-fuel track cutting, carbon arc gouging, plasma cutting and gouging. (0 credit – lecture; 1 credit lab)

Major content areas 1) Oxy-fuel brazing; 2) Oxy-fuel welding; 3) Oxy-fuel cutting.

Curriculum Content Goals 100% of the curriculum content goals will be covered in the high school course(s) by qualified CTE high school instructor(s).

- ☐ Implement oxy-fuel equipment safe practices.
- ☐ Perform tip maintenance for best flame operation.
- ☐ Manipulate torch and filler rod for sound welds.
- ☐ Operate manual and mechanical cutting equipment.
- ☐ Examine cut and weld quality.
- ☐ Demonstrate braze welding on sheet steel.

Oxy-Fuel Processes

Course Description

This course focuses on oxy-fuel safety and background knowledge needed to be proficient with oxy-fuel brazing and oxy-fuel cutting processes. (1 credit lecture/0 credits lab)

Major content areas 1) Oxy-fuel safety; 2. Oxy-fuel set-up

Curriculum Content Goals 100% of the curriculum content goals will be covered in the high school course(s) by qualified CTE high school instructor(s).

- ☐ Examine safety issues of oxy-fuel cutting and welding.
- ☐ Explain oxy-fuel cutting principles.
- ☐ Define braze welding.
- ☐ Describe oxy-fuel equipment set up and take-down.

Textbook Welding Principles and Applications – 6th ed.; Larry Jeffus; ©2004; Delmar Learning; ISBN13: 9781401810467; ISBN10: 1401810462

Assessments

- ☐ Assessment will be based on teacher observation of students performing oxy-fuel welding and brazing operation and a written test. Students must achieve a grade of **80% or higher** in both lecture and lab.
- ☐ Use of checklist (available at www.ctecreditmn.com): Teacher will check each blank as students are able to correctly and safely perform the operation. Upon completion of the checklist, a comprehensive final test (available at www.ctecreditmn.com) will be administered by high school teachers. A score of **80% or higher** on the final test is required.

Recommended Industry-Recognized Certification or Comprehensive Assessment – High School & College

Certification/ Assessment	Vendor	Other Information
Practical Knowledge of Thermal Cutting Process	AWS SENSE	www.aws.org