



Academy of Arts, Careers and Technology (AACT)
Engineering Academy
2020/2021
Welding Technology 3 Syllabus

Total Units of Course Credit

2 Credits

Course pre-requisite(s), Co-requisite(s)

Welding Technology 2

Classroom

Lab is located at 475 Edison Way TMCC Applied Technologies building room 150 Welding Lab.
Class time is 90 minutes every day, Class and Lab alternate every other day.

Instructors Name and Contact Information:

James Cooney

Email: jcooney@washoeschools.net

Office location 380 Edison Way Suite 101 RM 311 (inside lab room 310) Reno NV 89502

Office hours 7:45am-8:00 and 3:00-3:30 Daily or by appointment

Course Description

This course is a continuation of Welding 2. This course provides advanced welding students the ability to augment and further their skills and knowledge. All students will be members of our American Welding Society chapter, students will have the opportunity to achieve AWS Welding Certifications in many areas. Students will gain industry knowledge and standards through being a member of our Skills USA chapter. Upon completion of this course, students will have acquired entry-level skills for employment and post-secondary education.

Course Purpose

The purpose of Welding Technology 3 is to train students to apply safety skills, hands-on skills and knowledge to the lab to prepare students for industry. The program will begin to prepare students for an understanding about equipment and safety in a shop environment. Students will also apply technical skills to complete projects as well as learn about industry expectations and rules. Upon completion of the Welding Technology 3 students will be able to continue within the Engineering and Welding pathways.

This industry is in dire need of qualified people to work in the field. There are not enough qualified people available to fill the amount of jobs across the country. These skills relate to real world careers. Students will have opportunities to compete in Skills USA and participate in activities throughout the year. Successful passing of the state welding exam and career readiness exam earns students 20 college credits through TMCC.

Course Objectives

1. Students will be able to explain how safety is an important part of the shop.
2. Students will be able to demonstrate how to safely operate equipment in the shop.
3. Students will be able to identify safety concerns and problems, including fire prevention.

4. Students will be able to identify, explain the uses and characteristics of, and demonstrate the proper use of various pieces of equipment, in the shop.
5. Students will practice proper shop cleanup and placement of tools and equipment at the end of each class.
6. Students will be able to identify metals.
7. Students will be able to identify, Oxy Fuel Welding (OFW), Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Spray Transfer (GMAW-S), Flux Cored Arc Welding (FCAW), Gas Shielded FCAW-G, Self Shielded FCAW-S and Gas Tungsten Arc Welding (GTAW).
8. Students will be able to identify and demonstrate how to use Oxyfuel Cutting (OFC) and Plasma Arc Cutting (PAC).
9. Students will be able to identify American Welding Society (AWS) welding codes and inspection techniques to become a certified welder. Students will see nondestructive testing with test specimens and tools to be able to precisely measure discontinuities.
10. Students will be able to identify Fabrication techniques and uses.

Assignments/Assessments of student learning outcomes

Welding Technology builds upon itself throughout the year. Student outcomes are expected to be ongoing throughout the class. Much of the assessments are hands on in the shop, but a few will be done through tests.

Class assignments

There will be a series of assignments required in class, which will include required research and notebook material in order to assess comprehension of material.

Welding Lab

Labs will be graded by a series of rubrics as well as individual project completion depending on size requirements and proper procedures. Assessments will include safety, cleanliness of workspace, returning equipment when a student finishes a task. Teamwork, time management, use of equipment, and product waste and techniques.

Participation

Participation in class is a significant part of the education process. From class discussions, demonstrations, labs, safety glasses, safety gear including welding gear. Bring boots, pants and clothes that you do not mind getting dirty and you can store in a locker.

Quizzes and tests

There will be a series of quizzes and tests throughout the year in order to assess learning beyond the lecture and demonstrations.

Grading System

The grading system is designed on a point system for individual items in a weighted category by Washoe County School District and Nevada state mandates. Final grades are calculated by category grades.

Semester 1 and 2 Grading Categories

Classwork 10%

Notebook 20%

Tests 15%

Final 15%

Projects 40%

Career Readiness Skills

Citizenship grades are based on Nevada State Standards on Employability Skills, these include punctuality, motivation, collaboration, and appropriate use of Technology. Weekly grade given for Citizenship. 100%

90-100%	A
80-89%	B
70-79%	C
60-69%	D
0-59%	F