

Name of School:

Name of Course: **Advanced Welding**

**Instructor Information**

**Name:**  
**E-mail address:**  
**School phone number:**  
**Best times to be reached:**

**Course Description**

The second in a sequence of four welding courses designed to build on the skills learned in the basic level course. This program is designed to provide students the skills necessary for out of position welding on a variety of materials and increase the skill level of students to employable levels. Student projects are also allowed for qualified students.

**District Standards and Power Benchmarks**

**Power Standards**

Students will be able to:

1. Utilize hand tools in their proper application in a safe manner.
2. Set up and troubleshoot welding parameters.
3. Complete welds in the major processes: SMAW, GMAW, GTAW.
4. Operate efficiently in a full functioning manufacturing environment

**Power Benchmarks**

Students will be able to:

1. Apply shop and equipment safety rules in accordance with Occupational Safety and Health Association guidelines.
2. Evaluate a weld for imperfections and code specifications.
3. Demonstrate the ability to properly dial in a machine to the proper welding parameters.
4. Demonstrate the ability to successfully complete SMAW welds in the flat, horizontal, and vertical positions.
5. Demonstrate the ability to successfully complete GMAW welds in the flat, horizontal, and vertical positions.
6. Demonstrate the ability to successfully complete GTAW welds in the flat, horizontal, and vertical positions.
7. Demonstrate the ability to safely set up and utilize a cutting torch operation.
8. Properly use a plasma cutting machine to part an piece of raw material.
9. Demonstrate the ability to properly troubleshoot a GMAW wire feeding mechanism.
10. Demonstrate the ability to properly don personal protective gear during the completion of out of position welding operations.

## Course Information

One term. Monday-Friday. 90 minutes each day. This an elective course worth .5 credits towards graduation offered at various times all through the year.

## Course Outline

- A. Safety
- B. Cutting Operations.
- C. SMAW Welding.
- D. GMAW Welding.
- E. Plasmcam Introduction
- F. Final Project.

## Text/Other Required Materials/Resources

Text: Welding Skills

Required Equipment: Leather gloves, safety glasses, appropriate attire.

## Instructional Procedures & Support

This class is largely a lab-based class with individual student work in the weld booths taking place nearly everyday. A lecture format will be used when necessary and homework will be required. Attendance will be the major component in successful completion of the course and all assignments will be completed before welding will be allowed, no exceptions.

## Classroom Management Procedures

The welding lab is a strict environment with freedoms provided only after respect for classroom rules and regulations are met and maintained. This class focuses in large part on the workplace skill of personal responsibility. Therefore, participation in the course is evaluated on participation in **daily welding** activities.

## Assessment Plan

Combination of participation, daily production, and a final exam.

## Grading System

<b>A</b>	93 and above	Firm command of knowledge domain
<b>A<sup>-</sup></b>	90 - 92	High level of skill development Exceptional preparation for later learning
<b>B<sup>+</sup></b>	87 - 89	Command of knowledge beyond the basic concepts of knowledge
<b>B</b>	83 - 86	Advanced development of most skills Has prerequisites for later learning
<b>B<sup>-</sup></b>	80 - 82	
<b>C<sup>+</sup></b>	77 - 79	Command of the basic concepts of knowledge
<b>C</b>	73 - 76	Demonstrates ability to use basic skills Lacks a few prerequisites for later learning
<b>C<sup>-</sup></b>	70 - 72	
<b>D<sup>+</sup></b>	67 - 69	Lacks knowledge of some fundamental ideas Some important skills not attained
<b>D</b>	63 - 66	Deficient in many of the prerequisites for later learning
<b>D<sup>-</sup></b>	60 - 62	
<b>F</b>	59 and below	Most of the basic concepts and principles not learned Most essential skills have not been demonstrated Lacks most prerequisites needed for later learning