

# WELD 132 Articulation Competencies

## *Arc Welding (3 Credits)*

**Fundamentals and experience in operation of AC and DC welders in flat, horizontal, vertical and overhead positions using a variety of welding electrodes, including low-hydrogen rods. Introduction to MIG (Metallic Inert Gas) or GMAW (Gas Metal Arc Welding) included.**

*Upon completion of this course, successful students will score 80% or better on the following competencies to receive WVC college credits.*

### Student Learning Outcomes:

CATEGORIES			
<b>1. Problem Solving:</b> A. Critical Thinking B. Creative Thinking C. Quantitative Reasoning D. Qualitative Reasoning	<b>2. Communication:</b> A. Oral Expression B. Written Expression C. Artistic Expression	<b>3. Social Interaction:</b> A. Collaboration B. Ethical Conduct C. Professional Conduct D. Cultural Diversity	<b>4. Inquiry:</b> A. Information Literacy B. Research C. Documentation

### Course Competencies Checklist:

- Safely function in metal shop environment. (1A, 2A,B, 3A,B,C, 4A,B,C)
- Use basic tooling such as: (1A,B,C,D, 2A, 3B, 4A,B,C)
  - Bench grinders
  - Hand grinders
  - Hand tooling
  - Band saws
  - Iron workers
  - Shears
  - Chop saws
- Identify common welding symbols and terminology. (4A,B,C)
- Use arc welders AC and DC. (2A, 3A,B,C,D, 4A,B,C)
- Use MIG welders. (2A, 3A,B,C,D, 4A,B,C)
- Use a plasma cutter. (2A, 3A,B,C,D, 4A,B,C)

Program Outcomes:

Upon completion of this program, successful students will have acquired the skills and abilities to:

- Demonstrate standard shop safety procedures
- Apply welding theory and knowledge of common terms used in the industry to oxy/fuel gas and electric arc welding processes
- Apply a variety of standard and exotic welding techniques.
- Operate various shop fabrication equipment
- Use torches and fuel gases to produce durable parts.
- Read, interpret and use shop drawings and specifications in the fabrication and making of durable goods.
- Use effective reading, thinking, mathematical and written communication skills in workplace environments.
- Employ problem solving skills
- Be prepared to take welder qualification test in accordance with Washington Association of Building Organization (WABO) utilizing the SMAW process.

Core Topics:

- Electric arc AC and DC
- Common symbols and terminology
- Use of common shielded electrodes (Ex. 7018, 6011, 6013 etc..)
- MIG welding (solid core)
- Plasma cutting
- Safety
- Use of hand tools
- Use of fabrication tooling (benders, presses, saws etc..)