

## Ag Fabrications Competencies

1. ORIENTATION AND SHOP SAFETY
  - a. Understands welding shop safety practices and perform housekeeping duties
  - b. Demonstrates proper use of safety glasses and shop safety procedures
  - c. Performs safety inspections of equipment and accessories
  - d. Assesses basic equipment needs and use of accessories
  
2. MEASUREMENT/DRAWING
  - a. Demonstrates basic math skills
  - b. Demonstrates math concepts related to computing material needs and estimating costs
  - c. Demonstrates use of measurements including inches, feet, scales, areas and volume
  - d. Understands sketches and sketching
  - e. Understands scale drawings
  - f. Understands complicated and simple plans
  
3. THE ARC WELDING PROCESS
  - a. Identifies, organizes, plans and allocates resources for shielded metal arc welding
  - b. Understands fundamental steps and principles
  - c. Understands types of welders, equipment and selection
  - d. Understands rod selection (AWS classification)
  - e. Demonstrates running welds in all positions
  - f. Understands specialized arc welding equipment
  
4. THE OXY-ACETYLENE PROCESS
  - a. Identifies, organizes, plans and allocates resources for oxy-fuel gas cutting and heating operations
  - b. Understands equipment and accessories
  - c. Demonstrates setting up and adjusting equipment
  - d. Demonstrates joining metals, techniques
  
5. SHOP PROCEDURES
  - a. Works with a variety of technologies
  - b. Understands complex interrelationships
  - c. Performs cutting operations
  - d. Performs brazing operations
  - e. Makes fillet welds in all positions (flat, vertical, overhead, and horizontal) with E6013, E6011, and E7018 electrodes)
  
6. WELDING PROJECTS
  - a. Understands preparation of projects
  - b. Understands layout
  - c. Understands finishing

7. METHOD OF EVALUATION - STUDENT HAS SUCCESSFULLY COMPLETED THE 1/4" PLATE BEND TEST IN THE FOLLOWING POSITION(S) <h>
  - a. Flat position
  - b. Vertical position
  - c. Overhead position
  - d. Horizontal position
  
8. ESSENTIAL EMPLOYABILITY SKILLS/CAREER PREPARATION STANDARDS
  - a. Demonstrates personal skill development (positive attitude, honesty, self-confidence, time management)
  - b. Demonstrates effective interpersonal skills (group dynamics, conflict resolution, negotiations)
  - c. Demonstrates academic skills, critical thinking and problem-solving in the workplace
  - d. Demonstrates effective communication
  - e. Demonstrates occupational safety issues and observe all safety rules
  - f. Demonstrates career awareness and knowledge of pathways
  - g. Demonstrates ability to adapt to changing technology
  - h. Demonstrates ability to prepare for employment (resume, job application, job interview, portfolio development)