

Course Description**PMT0072 | Welder SMAW 1 | 5.00 credits**

In the Welder SMAW 1 course, students will develop foundational skills in shielded metal arc welding (SMAW), mastering techniques essential for metal fabrication. They will learn to apply SMAW principles confidently, producing quality welds with precision and efficiency. Additionally, students will gain proficiency in Carbon Arc Gouging (GAC), understanding its principles and employing this method effectively for material removal and preparation. Through visual examination skills, they will assess weld quality and identify potential defects. Furthermore, students will demonstrate their expertise by creating a product using both Carbon Arc Gouging and basic SMAW techniques, showcasing their ability to fabricate and weld metal components to industry standards.

Course Competencies

Competency 1: The student will develop foundational skills in shielded metal arc welding, focusing on producing quality welds with precision and efficiency by:

1. Practicing SMAW techniques to achieve consistent and high-quality welds in various positions and materials
2. Applying SMAW principles confidently to complete welds that meet industry standards for strength and appearance
3. Evaluating completed welds through visual examination to assess quality and identify areas for improvement

Competency 2: The student will gain expertise in Carbon Arc Gouging, understanding its principles and applications for effective material removal by:

1. Understanding the fundamental principles of Carbon Arc Gouging to prepare materials for welding and fabrication
2. Applying Carbon Arc Gouging techniques to remove material and efficiently create clean edges for welding
3. Demonstrating effective GAC practices to enhance material preparation for subsequent welding processes

Competency 3: The student will apply their skills in SMAW and Carbon Arc Gouging to create a finished product, demonstrating their welding and fabrication abilities by:

1. Integrating SMAW and Carbon Arc Gouging techniques to fabricate a metal product meeting specified design criterion
2. Collaborating with peers on a fabrication project fosters teamwork and communication in a welding environment
3. Showcasing completed projects to demonstrate proficiency in metal fabrication and adherence to industry standards for quality and safety

Learning Outcomes:

1. Communicate effectively using listening, speaking, reading, and writing skills
2. Solve problems using critical and creative thinking and scientific reasoning
3. Formulate strategies to locate, evaluate, and apply information