



**Course:** **Advanced Welding Techniques: 6G Certification Prep**

**Guided Learning Hours:** **51 hours**

**Pre-requisite:** **Completion of certified courses in 2G and 3G welding or equivalent experience**

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### **Abstract**

This course is designed for welders who have completed 2G and 3G welding courses and are looking to advance their skills in 6G welding. The course focuses on the techniques required for 6G welding, a position that involves welding pipes at a 45-degree angle, which is one of the most challenging positions due to its all-position nature.

This course layout provides a comprehensive approach to mastering 6G welding, ensuring that students not only gain the necessary skills but are also well-prepared for the demands of certification and professional application.

It will prepare students for certification and skilled application in diverse industrial environments.

### **Target Audience**

This course is intended for 2G and 3G welders.

### **Learning outcomes**

On completion of this course, learners will be able to:

- Understand the technical specifications and safety requirements for 6G welding.
- Develop proficiency in handling and positioning for 6G welding.
- Master the welding techniques necessary for achieving strong and durable welds in the 6G position.
- Prepare for the 6G welding certification exam.

### **Teaching Method:**

The course will combine lectures, demonstrations, hands-on activities, and discussions to ensure a deep understanding and practical application of the course content.

## Course Outline

- **Week 1-2: Theoretical Foundations**
  - Module 1: Introduction to 6G Welding
    - Overview of 6G welding position and its applications.
    - Safety protocols specific to 6G welding.
  - Module 2: Equipment and Material Specification
    - Detailed study of equipment used in 6G welding.
    - Material properties and selection for 6G welding.
- **Week 3-8: Practical Application**
  - Module 3: Technique Development
    - Hands-on training in pipe positioning and joint preparation.
    - Practice sessions focused on starting and stopping the weld pool.
  - Module 4: Advanced Welding Skills
    - Techniques for maintaining consistent arc length and speed.
    - Troubleshooting common issues in 6G welding.
- **Week 8-14: Certification Preparation**
  - Module 5: Mock Examination and Review
    - Conducting simulated 6G welding exams.
    - Review sessions to cover all theoretical and practical aspects.
  - Module 6: Final Assessment and Certification
    - Practical exam to test skills in a controlled environment.
    - Theoretical exam covering safety, techniques, and equipment knowledge.

## Assessment Methods

- **Continuous assessment through practical tasks and quizzes.**
- **Final practical and theoretical examinations for certification.**