



Course Outcome Summary

Standard Course

WELD217 AWS QC11

Advanced Level Welder Certification - Pipe

Course Information

Division	Applied Science & Engineering Technology
Contact Hours	90
Theory	30
Lab Hours	60
Total Credits	4

Prerequisites **WELD215 or QC11 Plate Certification**

Course Description

This course is designed to meet or exceed the skill and knowledge requirements for the welding and cutting processes established by the “American Welding Society” for the certification of “QC11 Level II Advanced Welder.” AWS reference document EG3.0-2017 mandates the standards and requirements of this course. Course requires participants to successfully complete pipe “Workmanship/Performance Qualifications” projects and is broken into process specific modules. Additional “Welding Exercises” are included to assure each participant the greatest possible opportunity to successfully complete “Performance Qualifications Tests” for the AWS Level II Certification on pipe. WELD217 is an advanced application of various welding processes and procedures with emphasis on reinforcing safe work habits in a lab/shop environment. Topics may include: machine functions, filler metal chemistry, mathematics, metallurgy, thermal cutting, blue print and welding symbol interpretation, basic fabrication techniques, as well as code and procedure requirements for a variety of industrial needs with emphasis on pipe welding. Welding/cutting processes covered with laboratory applications include: OFC, PAC, CAC-A, CNC-PAC, SMAW, GTAW, FCAW, and GMAW. Welder performance qualification tests must meet AWS QC11-2017 standards in addition to passing written examinations to receive AWS QC11 Certificate in pipe for each weld process.

Course Outcomes

In order to evidence success in this course, students will be able to:

1. Practice safe welding and thermal cutting habits in a lab environment.
2. Follow verbal and written instructions to complete work assignments by Interpreting and Performing WPQT according to established Welding Procedure Specification (WPS).
3. Exercise proper use and inspection of personal protection equipment (PPE).
4. Exercise proper set up and operation of GMAW-S, GMAW-Spray, GMAW-P, FCAW-S, FCAW-G, SMAW-CS, GTAW-CS, GTAW-SS, and GTAW-AL equipment on Pipe.
5. Produce sound welds on common joints, in multiple positions, on ferrous and nonferrous pipe as applicable by executing sound weld practices on Welder Performance Qualification Tests (WPQT) to pass code requirements for Welder Certification.
6. Interpret and apply welds as indicated on a blueprint to a fabricated work piece.
7. Distinguish common Weldability issues and execute corrective actions and recognize weld defects and incorporate corrective actions as they apply to code standards.
8. Interpret and apply welds as indicated on blueprints and WPS to a fabricated work piece.