Course Outline

Weld Joint Design and Preparation – Welding Code, Weld Measurement, and Hand Tools

HFC Course Code: CIMWD-101
Course Topic: Weld Joint Design and Preparation – Welding Code, Weld Measurement, and Hand Tools

Recommended Textbook: Welding: Principles and Applications 7th Edition

Course Description:

Introduces welding codes and standards, identification of welding flaws, and the tools used to measure aspects of the weld. Emphasizes safety protocols and proper usage of hand tools in a welding lab.

Course Topics

1. Welding code
2. Weld measurement
3. Hand tools
4. Weld flaw identification
5. Hand tool safety

Course Objectives

1. Identify the correct welding code for a given weldment.
2. Demonstrate satisfactory knowledge of measuring tools used on weld and weldments.
3. Demonstrate satisfactory knowledge of hand tool safety.
4. Use hand tools properly.
5. *Identify welding flaws.

Course Performance Based Objectives

1. Recognize the welding standards and industry groups that have written certain welding standards according to a list of multiple choice or true/false questions.
2. Based on class lecture and without using class notes, interpret a Welding Procedure Specification (WPS) based on a list of multiple choice or true/false questions.

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3. Based on class lecture and without using class notes, interpret a Performance Qualification Record (PQR) based on a list of multiple choice or true/false questions.
4. According to class lecture, recognize the difference between welder certifications based on a list of multiple choice or true/false answers.
5. According to class lecture, recognize the difference between certified and qualified based on a list of multiple choice or true/false answers.
6. From a list of possible multiple choice or true/false answers, identify and interpret welding discontinuities (flaws).
7. According to class lecture, recognize when a discontinuity becomes a defect based on a list of multiple choice or true/false answers.
8. Identify the tools used for weld inspection based on a list of multiple choice or true/false answers.
9. Identify Destructive Testing (DT) methods based on a list of multiple choice or true/false answers.
10. According to class notes, identify Non Destructive Testing (NDT) methods based on a list of multiple choice or true/false answers.
11. Identify basic welding hand tools based on a list of multiple choice or true/false answers.

Lectures and Demonstrations

1. Welding Codes and Standards
2. Certified/Qualified Welder
3. Welding Flaws
4. Weld Inspection Tools
5. Weld Shop Hand Tools

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