



Course Outline

Weld Joint Design and Preparation – Safety and Joint Design



HFC Course Code: CIMWD-100

Course Topic: Weld Joint Design and Preparation – Safety and Joint Design

Recommended Textbook: Welding: Principles and Applications 7th Edition

Course Description:

Covers safety rules for the welding lab and issues such as dealing with ultraviolet rays, burns, fumes, and electrical hazards. Introduces the print symbols and terminology used in fabricating and welding basic joints that are commonly seen on blueprints.

Course Topics

1. Safety protocols.
2. Welding blueprint symbols.
3. Welding terminology.
4. Welding positions.
5. Welded joints.

Course Objectives

1. Demonstrate proper welding safety in the lab environment.
2. *Interpret an industrial drawing with welding symbols.
3. Identify welding joints and welding positions.
4. Interpret welding terms.

Course Performance Based Objectives

1. Without the use of class notes, identify Shielded Metal Arc Welding, Gas Metal Arc Welding, and Gas Tungsten Arc Welding processes from a list of multiple choice or true/false answers.
2. Without the use of class notes, identify the Oxy/Fuel and Plasma Arc Cutting Processes from a list of multiple choice or true/false answers.
3. Without the use of class notes, identify the groove, fillet, plug, and slot welds from a list of multiple choice or true/false answers.





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4. Without the use of class notes, identify the butt, lap, tee, corner, and edge weld joints from a list of multiple choice or true/false answers.
5. Without the use of class notes, identify the flat, horizontal, vertical, and overhead weld positions from a list of multiple choice or true/false answers.
6. Without the use of class notes, identify the combination of weld, joints, and positions for welder certification from a list of multiple choice or true/false answers.
7. Without the use of class notes, identify the basic weld print symbols, including fillet, square groove, bevel groove, v groove, u groove, j groove, field weld, weld all around, contour symbols, and finish symbols.
8. According to a list of true/false or multiple-choice answers, interpret reference lines for welding location.
9. According to a list of true/false or multiple-choice answers, determine the measurement of weld size using the legs of the weld.
10. According to a list of true/false or multiple-choice answers, interpret the size and pitch of a weld.
11. According to a list of true/false or multiple-choice answers, interpret basic industrial prints.
12. According to class lecture, determine safety rules of the welding lab based on a list of multiple choice or true/false answers.
13. Without the use of class notes, determine the use of personnel protection gear according to a list of multiple choice or true/false answers.
14. According to a list of true/false answers, recognize the following hazards: Ultraviolet and Infrared Rays, Burns, Fumes, and Electrocutation.

Lectures

1. Safety and Lab Rules
2. Welding Processes
3. Terminology
4. Welds / Joints / Positions
5. Welding Symbols and Print Reading





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