Welding (WELD) 1560 Blueprint Reading (3 Units) CSU

Prerequisite: None

Hours and Units Calculation:
48 hours lecture + 96 Outside of class hours (144 Total Student Learning Hours)

Catalog Description: This course will cover certain key principles and practices of reading and interpreting basic industrial blueprints as applied to the welding trade. Additional welding supplies may be required. This course has a material fee.

Type of Class/Course: Degree Credit


Additional Instructional Materials:

Students are expected to have the following items:

1. #5 Shaded Safety Glasses & Clear Safety Glasses
2. Welding leather gloves
3. Work boots (above the ankle)
4. Long sleeve shirt & jeans (no holes or rips)
5. Welding hood/helmet
6. Welding cap
7. Pair of pliers (multi-use, wire cutters)
8. Wire brush
9. Chipping hammer

Optional material/equipment:
1. Grinder

Course Objectives:

By the end of the course, a successful student will be able to:

1. explain the welding concepts, principles, and application, and
2. demonstrate understanding of welding blueprint reading in related situations and projects.

Course Scope and Content:
Unit I  Blueprint Reading for Welders’ Introduction
   A. Overview and Purpose

Unit II  Lines, Views, and Sketching
   A. Basic Lines
   B. Basic Views
   C. Purpose of Sketching
   D. Basic Sketching Techniques

Unit III  Dimensions
   A. Purpose
   B. Types of Dimensions

Unit IV  Bill of Materials, Structural Shapes, Views, and Sections
   A. Preparation of a Bill of Materials
   B. Common Structural Shapes
   C. Types of Views
   D. Types of Sections

Unit V  Detail and Assembly
   A. Detail Drawing
   B. Assembly Print

Unit VI  Welding Symbols
   A. Welding Symbols
   B. Location of Symbols
   C. Elements
   D. Dimension of Symbols
   E. Various Application

Unit VII  Basic Joints and Weld Types
   A. Basic Joints
   B. Other Kinds of Joints
   C. Weld Types and Purposes

Unit VIII  Metrics
   A. Applied Metrics

Unit IX  Other Welding Symbols
A. Pipe Welding Symbols
B. International Standard Symbols for Welding

Unit X Inspection and Testing

A. Overview
B. Destructive Testing
C. Non Destructive Examination

Learning Activities Required Outside of Class:

The students in this class will spend a minimum of 6 hours per week outside regular class time doing the following:

1. Completing assigned readings from the text
2. Analyzing various blueprint explanation, sketches, drawings, etc. to determine applicability, length, size, extent, contour, finishing
3. Preparing for code testing

Methods of Instruction:

1. Lecture
2. Individual and group work
3. Class discussion and participation
4. Power Point presentations
5. Demonstration

Methods of Evaluation:

1. Class participation
2. Grading scale specified in syllabus
3. Exams and quizzes
4. Observation
5. Written assignments

Supplemental Data:

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