WELD A180: BLUEPRINT READING

Item	Value
Curriculum Committee Approval Date	11/15/2017
Top Code	095650 - Welding Technology
Units	2 Total Units
Hours	54 Total Hours (Lecture Hours 36; Lab Hours 18)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S)

Course Description

A basic course in the reading of blueprints associated with the welding fabrication industry. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Use measuring tools.
2. Sketch prints to size scale.
3. Read and draw welding symbols to industry standards.
4. Read and understand materials takeoff and demonstrate layout procedures from prints.

Course Objectives

- 1. Read blueprints used in the welding fabrication industry
- 2. Read and understand measuring tools.
- 3. Demonstrate the understanding of drawings size scales.
- 4. Identify the different drawing formats used in welding.
- 5. Read and understand materials takeoff.
- 6. Draw basic views.
- 7. Draw abstract views.
- 8. Read industrial blueprints.
- 9. Demonstrate layout procedures from prints

Lecture Content

Introduction to Blueprints Definition, history, how blueprints are made Review of common measurement systems Fractional and decimal inch and metric Angular Circular Surface Metric Tolerances and allowances Welding symbols Weld symbols Arrow Reference line Tail Supplementary weld symbols Placement of appropriate information Depth of preparation Size of weld Length of weld Pitch The Alphabet of Lines Object Hidden Center Extension and dimension lines Leader lines Phantom lines Cutting plane lines Section lines Views of an Object Orthographic projections Section views Auxiliary views Pictorials Block Information Title block Standard specifications Special treatment Engineering change Drawing Formats (styles) Orthographic Tabular Geometric dimensioning and tolerancing Coordinate Ordinate Point-to-point Polar dimensioning True position Dual dimensioning Common Allowances and Fits Laying Out from Prints Methods of cross checking dimensioning Methods of marking areas of metal removal Assembly and Fabrication Drawings Definition Material listing Fits Procedures

Lab Content

See Course Content.

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- Lab (04)
- DE Live Online Lab (04S)

Instructional Techniques

Lecture, demonstrations, textbook reading assignments, drawing, constructive evaluation and critique

Reading Assignments

Demonstrate proficiency by laying out a portion of an industrial print.Write one research paper related to blueprint development.

Writing Assignments

Demonstrate proficiency by laying out a portion of an industrial print.Write one research paper related to blueprint development.

Out-of-class Assignments

Demonstrate proficiency by laying out a portion of an industrial print.Write one research paper related to blueprint development.

Demonstration of Critical Thinking

Attendance, demonstrations, participation in exercises, final quiz

Required Writing, Problem Solving, Skills Demonstration

Demonstrate proficiency by laying out a portion of an industrial print. Write one research paper related to blueprint development.

Textbooks Resources

1. Required Hobart School of Welding. Blueprint Reading for Welders and Fitters, ed. Troy: Hobart School, 0 Rationale: latest 2. Required Galvery, William and Frank Marlow. Welding Essentials: Questions and Answers , 2nd ed. New York: Industrial Press, 2007

Other Resources

1. Selected handouts provided by the instructor.