South Central College

WELD 1260 Fabrication II

Common Course Outline

Course Information

Description This course will offer the hands on portion of using a sheet and tubing roller, a press brake and operating a plasma/laser table. The course will offer students a chance to use a blueprint to fabricate a part that will become part of a weldment. (Prerequisites: Must be enrolled in Welding Fabrication Certificate or instructor approval.)

Total Credits 4

Total Hours 112

Types of Instruction

Instruction Type	Credits/Hours
Lab	4/112

Pre/Corequisites

Must be enrolled in Welding Fabrication Certificate or Approval from Instructor.

Institutional Core Competencies

Communication - Students will be able to demonstrate appropriate and effective interactions with others to achieve their personal, academic, and professional objectives.

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Demonstrate safety practices when using the fabrication equipment.

Learning Objectives

Demonstrate the proper uses of all personal protective equipment needed when operating the bender and/or roller.
Identify all pinch points and hazards that may be present when operating tubing bender or sheet roller.

2. Demonstrate qualities that employers are looking for in their candidates.

Learning Objectives

Demonstrate ability to show up to class on time.
Communicates with progress of projects with coworkers in class.
Ability to come to class everyday with correct PPE on and ready to work.

3. Explain how to enter and access the programs that have been entered plasma/laser table,

sheet/ tubing roller and/or brake press.

Learning Objectives
Demonstrate how to enter a specific degree into sheet roller and brake press to obtain the correct bend radius.
Demonstrate how to retrieve programs that have been saved on the particular machine.
Demonstrate how to start up and shut down each machine that is used in fabrication.

4. Demonstrate how to use the tubing bender, sheet roller and press brake.

Learning Objectives
Explain how to adjust the bender, roller or brake press depending on the material thickness that is being formed.
Demonstrate how to install the material and operate the equipment being formed.
Demonstrate how the emergency stops work on all the equipment and how to restart the program.

5. Demonstrate how to figure out correct angles while bending the material.

Learning Objectives
Demonstrate how to bend various thicknesses of metal to a specific degree or radius.
Demonstrate how to use a protractor and other measuring tools to obtain the correct measurements.

6. Demonstrate how to cut out material on the plasma/laser table.

Learning Objectives
Demonstrate how to load material on/in the plasma/laser cutting equipment.
Demonstrate the proper PPE that should be worn when using the plasma or laser cutting equipment.
Demonstrate how to restart equipment if an error has occurred.

7. Demonstrate how to use the press brake to form material to make a part to print specifications.

Learning Objectives
Demonstrate how to using different dies will give different radius for formed materials.
Demonstrate how to use a protractor to measure the angle produced to see if it matches what is called for on the blue print.
Demonstrate how to use the emergency stop and how to restart the program.

8. Demonstrate how to read a fabrication print to use the correct dies, punches and computer programs on the fabrication equipment.

Learning Objectives
Demonstrate how to install the correct die to obtain the correct angle on the formed piece part.
Demonstrate how to install the correct punch in press to obtain the correct diameter hole in the piece part.
Demonstrate how to cross reference the computer program to double check that the corresponding die or press matches the program.

9. Demonstrate how to use the fabrication and precision measuring tools to make sure that the piece part meets the specifications of the print.

Learning Objectives
Demonstrate how to use the precision measuring tools to ensure the parts are rolled or formed to match the print.
Explain to other in class how to read each of the fabrication tools.
Demonstrate how to inspect each tools and zero each tool if it is needed.

10. Assist other coworkers in class in using the fabrication equipment to make a final project.

Learning Objectives
Assist other coworker (student) on installing the correct dies into rolling and brake press.
Assist coworker (student) in creating a part from the plasma/laser table to a finished form piece part.

11. Demonstrate how to fix material that has been formed to the wrong specifications.

Learning Objectives
Explain if the object being formed is repairable or will have to be scraped because the specific radius was not achieved.
Demonstrate how a repair would be made to obtain the specific bend radius.

12. Build a final project(s) that will be formed by following a blue print that has been drawn.

Learning Objectives

Assemble a final project from reading a print that may be drawn in class or obtained from a company.
Demonstrate how to measure the project to ensure it matches what the measurements are on the print.

SCC Accessibility Statement

South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room C-112, (507) 389-7222; Faribault: Room A-116, (507) 332-5847.

Additional information and forms can be found at: www.southcentral.edu/disability

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