South Central College

WELD 1205 CNC Plasma/Laser Table

Common Course Outline

Course Information

Description	This course will offer students the ability to design a piece part in solid work that will be used in a weldment. Students will also learn about the safety aspects of using a plasma/laser table. (Prerequisites: Must be enrolled in Welding Fabrication Certificate or instructor approval.)
Total Credits	3
Total Hours	64

Types of Instruction

Instruction Type	Credits/Hours
Lecture	2/32
Lab	1/32

Pre/Corequisites

Must be enrolled in Welding Fabrication Certificate or instructor approval.

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 how to use Solid Works or comparable drafting program.**

   Learning Objectives
   Demonstrate how to draw an object in Solid Works or comparable drafting program.
   Demonstrate how to retrieve a file, edit it and save it for future use.

2. **Perform machine start up, reference, and shut down machine safely and accurately.**

   Learning Objectives
   Demonstrate procedure for turning on the plasma/laser table.
   Demonstrate proper procedures for shutting down the plasm/laser table.
   Demonstrate how to reference the edge of metal to set "zero".

3. **Demonstrate how to copy/transfer/import/manage program files to/from USB and network.**

Learning Objectives

Demonstrate how to copy a file from a computer to USB drive and import to plasma/laser table computer.
Demonstrate how to manage a file that is existing on plasma/laser table computer.
Demonstrate how to import file from a network file to the plasma/laser table computer.

4. Create/organize/delete job lists and run production.

Learning Objectives

Create a job list for a production run on the plasma/laser table.
Organize the job list for the material on hand or production run schedule.
Demonstrate how to delete jobs that are no longer needed.

5. Discuss machine specifications and capabilities.

Learning Objectives

Discuss the machines specifications to include:
1. Voltage required for the equipment
2. How fast it can cut material.
3. How close it can be located to another machine.
4. What is the amperage that machine is putting out.

Discuss the capabilities of plasma/laser table.
1. Max thickness that can be cut.
2. Max material dimensions.
3. Max weight of material to be loaded.

6. Identify variables that impact quality of cut and solutions to these problems.

Learning Objectives

Discuss what impact travel speed has on the cut surface of the material.
Discuss what impact fluid pressure has on the cut surface of material.
Discuss what impact consumables will have on the cut surface of the material.
Discuss solutions to the problems listed above.

7. Understand how to safely load material on/in the plasma/laser table.

Learning Objectives

Discuss how to safely load material on the plasma/laser table.
Locate all emergency stops for future reference.
Discuss if weight of material is too heavy that two person lift may be needed.

8. Demonstrate how to inspect and replace consumables on a plasma/laser table.

Learning Objectives

Demonstrate how and where to locate the parts of the plasma/laser table that would be classified as a consumable.
Demonstrate how to inspect the consumable and decide if it can be cleaned or needs to be replaced.

9. Demonstrate how to load, cut, unload and inspect piece part(s).

Learning Objectives

Demonstrate how to properly and safely load the parts on the machine.
Demonstrate how to inspect the part to make sure that it is to specifications of the print.
Demonstrate how to unload the skeleton left on table.
Demonstrate how to repair a piece part that can be fixed.

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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