South Central College

WELD 1201 Roll Forming

Common Course Outline

Course Information

Description In this course students will learn how to roll form sheet steel and tubing. Students will also learn how to use hand tools required to measure radiuses. (Prerequisite: Must be enrolled in Welding Fabrication Certificate or instructor approval.)

Total Credits 2

Total Hours 48

Types of Instruction

Instruction Type	Credits/Hours
Lecture	1/16
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. Understand the definition and terminology of roll forming.

Learning Objectives

Explain the terminology used in roll forming.
Demonstrate the terms used in roll forming to ensure the student uses them correctly.

2. Know basic roll forming history.

Learning Objectives

Explain why roll forming was first used.
Explain how roll forming has added strength value to the part being formed.

3. Understand the typical roll forming process.

Learning Objectives

Explain how roll forming is used to flatten coils of steel into flat sheet plate.
Explain what are the different applications that used roll forming.
Explain how stretching the metal that has been uncoiled help the metal loose its memory.

4. Understand the roll forming die anatomy and theory.

Learning Objectives

Explain why a series of rolling dies are need to obtain a bend progression or "flowering".
Explain why fixtures, guides, side rollers and straitening devices are added where applicable.
Explain how straightening devices are used to remove unwanted twist, camber and bow.

5. Understand die safety and lubrication.

Learning Objectives

Explain to where pinch points would be found in the roll forming process.
Explain the different type of guarding that can be used to protect workers from pinch points.
Explain the two primary methods of adding lubricants to forming process.
Explain why lubricants are added to the forming process.

6. Explain the basics of straighteners and sweep units, including single block and multiple block, roller and Turks head.

Learning Objectives

Explain why straighteners are used in roll forming.
Explain difference between a single block or multiple blocks and when each is used in roll forming.
Explain when a when and why a Turks head is used in the roll forming process.

7. Explain the difference between types of roll forming machines, including rafted, standard and duplex.

Learning Objectives

Explain the difference of roll forming machines.
Explain how rafted, standard and duplex are different and how they make product change over more efficient.

8. Demonstrate how to use roll forming equipment in the shop.

Learning Objectives

Demonstrate how to safely use the roll forming equipment.
Demonstrate how to roll form different angles by using different dies.

Demonstrate single block and multiple block process.
Inspect finished product to blue print to assure that it acceptable.

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.

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