



MASTER COURSE OUTLINE

A. IMMR 1740 Machining Fundamentals

B. COURSE DESCRIPTION:

This course introduces the fundamentals of machining. Students identify the machines' principal parts and functions and perform basic machining operations such as facing, straight turning, boring, threading, and others. Students calculate speed and feeds. Shop safety is covered and practiced.

(3 Cr – 0 lect, 3 lab)

C. Core Theme: Critical Thinking

D. RIVERLAND INSTITUTIONAL LEARNING OUTCOMES:

This course addresses the following Riverland Institutional Learning Outcome(s):

- ILO 1: critical thinking (*Core Theme Goal 2*)
- ILO 2: awareness of the larger global community (*Core Theme Goal 7 or 8*)
- ILO 3: ethical, engaged citizenship (*Core Theme Goal 9 or Goal 10*)
- ILO 4: communication and collaboration (*Discipline Goal 1 and by any learning outcome(s) involving communication or collaboration*)

E. MAJOR CONTENT AREAS:

- Safety
- Terminology
- Speeds
- Feeds
- Machine controls
- Lathe adjustments
- Lathe maintenance
- Tooling
- Print interpretation
- Fabricate parts

F. GOAL TYPE, OBJECTIVES, AND OUTCOMES:

<u>GOAL TYPE</u>	<u>OBJECTIVES</u>	<u>OUTCOMES</u>
	Students will be able to	The student will successfully
<u>**Critical Thinking</u>	gather factual information and apply it to a given problem in a manner that is relevant,	1. manufacture parts within print specifications.

	clear, comprehensive, and conscious of possible bias in the information selected.	
<u>CS</u>	practice safety procedures for the safe operation of an engine lathe.	1. set up machine to meet all safety requirements including operator safety.
<u>CS</u>	identify the five major components of the lathes and their function of operations.	1. perform standard lathe operations while using controls for manual feed and power feed.
<u>CS</u>	fabricate part in accordance with print to specify tolerances.	1. perform proper operations of the lathe. 2. follow a blueprint and hold proper tolerance.

G. SPECIAL INFORMATION:

This course may require use of the Internet, the submission of electronically prepared documents and the use of a course management software program. Students who have a disability and need accommodations should contact Accessibility Services at the beginning of the semester. This information will be made available in alternative format, such as Braille, large print, or current media, upon request.

H. COURSE CODING INFORMATION: Course Code S/Class Maximum 24; Letter Grade

Revision date: 01/14/11; 10/03/2022

AASC Approval date: 03/22/11; 12/13/22

*Riverland Community College Disciplines	MnTC Goal Number
Communication (CM)	1
Natural Sciences (NS)	3
Mathematics/Logical Reasoning (MA)	4
History and the Social & Behavioral Sciences (SS)	5
Humanities and Fine Arts (HU)	6

**Riverland Community College Core Themes	MnTC Goal Number
Critical Thinking (CT)	2
Human Diversity (HD)	7
Global Perspective (GP)	8
Ethical and Civic Responsibility (EC)	9
People and the Environment (PE)	10

*These five MnTC Goals have been identified as Riverland Community College Disciplines.

** These five MnTC Goals have been identified as Riverland Community College Core Themes.

NOTE: The Minnesota Transfer Curriculum “10 Goal Areas of Emphasis” are reflected in the five required discipline areas and five core themes noted in the Riverland Community College program of study guide and/or college catalog.

Riverland