



MASTER COURSE OUTLINE

A. IMMR 2765 Gas Metal Arc Welding

B. COURSE DESCRIPTION:

This course emphasizes Gas Metal Arc Welding (GMAW). The course includes the following major groups: power sources, wire feeders, torches, shielding gases, filler metals. Each one of these groups is covered in detail. Time is spent in the lab developing skills in using the process and setting up the equipment for the various applications. The focus of this course is on the use of wire feed welding equipment, application, and setup. Safety is a major consideration including welding equipment and the handling of various gases. Welding skills are developed through completion of welding projects.
(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:

- Gas Metal Arc Welding (GMAW)
- Safety precautions
- Equipment
- Process Control
- Metal transfer modes
- Gas and filler selection

F. GOAL TYPE, OBJECTIVES, AND OUTCOMES:

<u>GOAL TYPE</u>	<u>OBJECTIVES</u>	<u>OUTCOMES</u>
** <u>Critical Thinking</u>	Students will be able to gather factual information and apply it to a given problem in a manner that is relevant, clear, comprehensive, and conscious of possible bias in the information selected.	1. demonstrate welding skills using various materials.

<u>CS</u>	identify the proper source for GMAW.	1. perform set-up procedures on the GMAW machine.
<u>CS</u>	identify safety guidelines.	1. demonstrate safety procedures daily.
<u>CS</u>	identify technique to weld in different positions.	1. perform quality welds in various positions.

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; 05/01/18; 10/03/22

AASC Approval date: 05/08/18; 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.