



MASTER COURSE OUTLINE

A. IMMR 2770 Gas Tungsten Arc Welding

B. COURSE DESCRIPTION:

This course emphasizes applications for Gas Tungsten Arc Welding (GTAW/Heli-Arc) in the welding industry. Power sources, current types, current selection, shielding gases and torch types are also covered. Various procedures are discussed for welding different metals and problems that may be encountered. Safety procedures and the handling of high pressure cylinders, especially when using the GTAW, are covered.

(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 Tungsten Arc Welding (GTAW)
- Safety precautions
- GTAW equipment
- Process controls
- Polarity selections
- Shielding gas and filler metal selection
- Regulator and flow meter function

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.	The student will successfully 1. demonstrate welding skills with various metals.

<u>CS</u>	identify various controls for use on GTAW welding.	1. set-up and adjust power supply for the GTAW.
<u>CS</u>	identify techniques to weld in various 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.