MASTER COURSE OUTLINE

A. IMMR 2775 Refrigeration Systems

B. COURSE DESCRIPTION:

This course covers fundamentals of refrigeration, tools and materials, basic refrigeration systems, compression systems, refrigerant controls, refrigerants, and small domestic applications. The course also includes the principles of installing and servicing small hermetic systems. The lab experiences include working with safe lab practices, tools, tubing, refrigeration system components, refrigerants, refrigerant recovery, recycle, reclaiming, system evacuations, and proper testing equipment usage. The course builds on the basic knowledge of refrigeration. systems.
(3 Cr – 2 lect, 1 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:

- Refrigerant safety and handling procedures
- Basic refrigerant components and circuits
- Domestic appliances refrigeration system knowledge
- Types of refrigerants and their common use
- Tubing and refrigerants
- Disassembly and assembly of a refrigeration system
- Refrigeration systems and measurements

F. GOAL TYPE, OBJECTIVES, AND OUTCOMES:

GOAL TYPE	OBJECTIVES Students will be able to	OUTCOMES The student will successfully
**Critical Thinking	gather factual information and apply it to a given problem in a manner that is relevant,	1. students will think systematically and explore information

	clear, comprehensive, and conscious of possible bias in the information selected.	thoroughly before accepting or formulating a position or conclusion.
CS	demonstrate work/lab safety.	1. review lab safety. 2. demonstrate lab safety. 3. explain safety systems.
CS	understand how systems work and adjustments that are related.	1. explain how adjustments in one area of a completed system effects related parts. 2. demonstrate replacement of OEM parts and effects.

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:
AASC Approval date: 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.