



MASTER COURSE OUTLINE

A. ELEC 2750 Programmable Logic Controllers II

B. COURSE DESCRIPTION:

This course provides the student additional applications of programmable logic controllers (PLC) with emphasis on advanced programming techniques and intelligent input/output modules. The operation of PLC internal timers and timers will be covered in depth. Data manipulation, sequencers and internal math functions will also be covered. Labeling, documentation and maintenance are also part of the curriculum.

Prerequisite: ELEC 2703, ELEC 2745. Co-requisite: ELEC 2706.

(3 Cr – 2 lect, 1 lab)

C. ****Core Theme:** Critical Thinking

D. MAJOR CONTENT AREAS:

- Timers
- Counters
- Data manipulation
- Math functions
- Sequencers

E. GOAL TYPES, OBJECTIVES, AND OUTCOMES:

<u>GOAL</u>	<u>OBJECTIVES</u>	<u>OUTCOMES</u>
**Critical Thinking	Students will be able to analyze the logical connections among the facts, goals, and implicit assumptions relevant to a problem or claim; generate and evaluate implications that follow from them.	The student will successfully 1. demonstrate an understanding of advanced programming techniques and the use of intelligent input and output modules.
<u>CS</u>	understand timers.	1. program a 4-way traffic signal.
<u>CS</u>	understand counters.	1. program counters.
<u>CS</u>	understand data manipulation.	1. use data transfer and compare instructions.
<u>CS</u>	understand math functions.	1. use math functions.
<u>CS</u>	understand sequencers.	1. program sequencers.

F. 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 the instructor or the Student Success Center 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.

G. COURSE CODING INFORMATION:

Course Code T/Class Maximum 24; Letter Grade

Revision date: 11/25/19

AASC Approval date: 04/19/11 ; 12/17/19

*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