



MASTER COURSE OUTLINE

A. DESL 1211 Electronics I

B. COURSE DESCRIPTION:

This course is an introduction to electronic systems found on medium/heavy duty trucks and agricultural equipment. Basic theory of operation, use of service information and diagnostics are covered. Multiple ESTs (Electronic Service Tools) and EDLs (Electronic Diagnostic Links) are introduced. This course, along with other program courses, satisfies the task requirements set forth by the Automotive Service Excellence (ASE) Education Foundation accreditation.

(3 Cr – 1 lect, 2 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:

- Electrical and electronic controls – theory of operation
- Electronic systems identification
- Diagnostics and repair of electronic systems
- Service tool identification and use

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. describe electronic controls on multiple systems.
<u>CS</u>	Explain theory of operation on multiple electronically controlled systems.	1. demonstrate operation of electronically controlled equipment.

<u>CS</u>	determine the cause of a problem in an electronically controlled system.	1. perform diagnostic tests for electronically controlled equipment.
<u>CS</u>	identify correct repair procedures on electronically controlled equipment safely.	1. complete common repair procedures to provided equipment.
<u>CS</u>	Demonstrate use of ESTs (electronic service tools) for electronic controls communication and programming.	1. establish communication between EST and assigned equipment.

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.

The student will need access to and use of a laptop computer capable of running required software.

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

Revision date: 01/10/20; 01/03/23

AASC Approval date: 04/19/11; 3/24/20; 02/21/23

*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