



MASTER COURSE OUTLINE

A. DESL 1117 Engines I

B. COURSE DESCRIPTION:

This course covers the base diesel engines. Areas to be included are: engine block, crankshaft, camshaft, gear train timing, cylinder head, cooling systems, and lube systems on multiple engine makes and models commonly used in over the road trucks and agriculture. 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:

- Gear train inspection, timing, and repair
- Cooling system repair and diagnostics
- Lube system repair and diagnostics
- Proper use of special tools and tool identification
- Using proper guidelines for engine repair
- Discussing and using current clean care practices

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. diagnose common base engine problems.
<u>CS</u>	understand clean care procedures as described in the service literature.	1. apply clean care practices on lab assignments.

<u>CS</u>	understand the use of specialized tools.	1. apply service literature to properly use specialized tools in the lab.
<u>CS</u>	understand repair procedures as described in the proper repair literature.	1. apply service literature to perform repairs.

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; 02/03/23

AASC Approval date: 04/19/11; 3/24/20; 03/28/23

*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.