



## MASTER COURSE OUTLINE

A. AUTO 2413 Ignition Systems Diagnosis

B. COURSE DESCRIPTION:

This course covers theory, diagnosis, operation and repair of various ignition systems. This course, along with other program courses, satisfies the task requirements set forth in Section VIII of the National Institute for Automotive Service Excellence (ASE) accreditation.

Prerequisites: AUTO 1205 and AUTO 1431 or instructor approval.

**(2 Cr – 1 lect, 1 lab)**

C. Core Themes : Critical Thinking; People and the Environment

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:

- Ignition system
- Oscilloscopes

F. GOAL TYPE, OBJECTIVES, AND OUTCOMES:

<u>GOAL TYPE</u>	<u>OBJECTIVES</u> Students will be able to	<u>OUTCOMES</u> The student will successfully
<b>**Critical Thinking</b>	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. analyze ignition system waveforms in order to diagnose malfunctions and decide on a course of action.
<b>**People and the Environment</b>	evaluate critically environmental and natural resource issues in light of understandings about interrelationships, ecosystems, and institutions.	1. analyze emissions and emission control system failures and relate consequences for the environment and human health.
<b>**People and the Environment</b>	articulate and defend the actions they would take on various environmental issues.	1. explain the importance of emission control repairs.

<u>CS</u>	demonstrate an understanding of ignition system theory.	1. identify ignition operation. 2. identify Hall effect and magnetic sensor operation.
<u>CS</u>	identify ignition system test/repair.	1. test ignition coils. 2. test Hall effect and magnetic pick up. 3. display ignition waveform. 4. replace ignition components.

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: 03/09/11; 11/29/17; 07/08/22

AASC Approval date: 12/12/17; 10/18/22

<b>*Riverland Community College Disciplines</b>	<b>MnTC Goal Number</b>
Communication (CM)	<b>1</b>
Natural Sciences (NS)	<b>3</b>
Mathematics/Logical Reasoning (MA)	<b>4</b>
History and the Social & Behavioral Sciences (SS)	<b>5</b>
Humanities and Fine Arts (HU)	<b>6</b>

<b>**Riverland Community College Core Themes</b>	<b>MnTC Goal Number</b>
Critical Thinking (CT)	<b>2</b>
Human Diversity (HD)	<b>7</b>
Global Perspective (GP)	<b>8</b>
Ethical and Civic Responsibility (EC)	<b>9</b>
People and the Environment (PE)	<b>10</b>

\*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.