



MASTER COURSE OUTLINE

A. AUTO 1435 Introduction to ADAS and AV

B. COURSE DESCRIPTION:

This course will give the student an overview of Advanced Driver Assistance System (ADAS) and Autonomous Vehicle (AV). The student will understand how these new technologies impact auto service procedures. Prerequisite: AUTO 1431
(1 Cr – .5 lect, .5 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:

- Understanding of ADAS and AV
- Overview of the impacts of these technologies

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
** <u>Critical Thinking</u>	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.	<ol style="list-style-type: none"> 1. Discuss the need for ADAS. 2. Understand what an AV is. 3. Discuss the five levels of automotive autonomy. 4. List the technologies presently used in contemporary ADAS equipped vehicles. 5. Use aftermarket and scan tools to successfully retrieve ADAS DTCs (Diagnostic Trouble Codes). 6. Recommend repairs and maintenance based on retrieved DTCs.

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. A smart phone is insufficient.

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

Revision date:

AASC Approval date: 10/18/22

*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.