



MASTER COURSE OUTLINE

A. AUTO 2454 Automatic Transmission Electronics

B. COURSE DESCRIPTION:

This course covers removal and installation procedures as well as disassembly and assembly procedures for automatic transmissions. The course also covers diagnosis and repair of automatic transmissions. This course, along with other program courses, satisfies the task requirements set forth in Section II of the National Institute for Automotive Service Excellence (ASE) accreditation. Prerequisites: AUTO 1205 and AUTO 1431 or instructor approval.

(3 Cr – 2 lect, 1 lab)

C. Core Themes: Critical Thinking; Ethical and Civic Responsibility

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:

- Diagnosis of electrical and electronic failures.
- Electronically shifted transmissions
- Automatic transmission repair

F. GOAL TYPE, OBJECTIVES, AND OUTCOMES:

<u>GOAL TYPE</u>	<u>OBJECTIVES</u>	<u>OUTCOMES</u>
	Students will be able to	The student will successfully
**Critical Thinking	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. assemble information gathered from diagnosis. 2. apply the information to complete an effective repair.
**Critical Thinking	imagine and seek out a variety of possible goals, assumptions, interpretations, or perspectives which	1. determine if the most effective repair is repair or replacement.

	can give alternative meanings or solutions to given situations or problems.	
**Ethical and Civic Responsibility	analyze and reflect on the ethical dimensions of legal, social, and scientific issues.	1. use a cost-benefit analysis in order to advise customers on the most cost-effective repair of their vehicle.
CS	identify mechanical and hydraulics faults.	1. disassemble one transmission in a class as a group. 2. remove and replace one transmission. 3. test torque converter operation. 4. test cooler flow.
CS	identify electrical problems.	1. test and analyze various computer inputs and outputs using appropriate tools. 2. diagnose customer repair problems. 3. test internal hydraulic switches.

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

*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