MASTER COURSE OUTLINE

A. AUTO 2352 Rear Axle/Four Wheel Drive

B. COURSE DESCRIPTION:

This course covers the theory, principles, diagnosis and repair procedures related to drivetrains. This course, along with other program courses, satisfies the task requirements set forth in Section III of the National Automotive Technicians Education Foundation (NATEF) accreditation.
Prerequisites: AUTO 1201, AUTO 1202, AUTO 1451, or instructor approval.
(3 Cr – 1 lect, 2 lab)

C. **Core Theme: Critical Thinking and People and the Environment

D. MAJOR CONTENT AREAS:

- Rear axle/final drive
- Front wheel drive
- Four wheel drive
- C/V and universal joints

E. GOAL TYPES, OBJECTIVES, AND OUTCOMES:

GOAL	**OBJECTIVES** **Students will be able to**	**OUTCOMES** **The student will successfully**
**Critical Thinking	analyze the logical connections among the facts, goals, and implicit assumptions relevant to a problem or claim; generate and evaluate implications that follow from them.	1. identify the relationship between transfer case failures and axle failures.
**People and the Environment	articulate and defend the actions they would take on various environmental issues.	1. apply proper waste disposal procedures in the automotive repair industry.
CS	disassemble and reassemble a Hypoid Final Drive set making the proper adjustments.	1. inspect all parts for damage. 2. measure and adjust ring gear backlash and run out, pinions depth, and preload and check tooth contact pattern. 3. replace axle seal. 4. remove and install axle hub for a full floating axle.

CS	disassemble various 4x4 transfer cases.	1. remove and replace a transfer case from a four wheel drive vehicle. 2. disassemble and reassemble the front hubs of four wheel drive vehicles. 3. remove and replace a drive shaft and universal joints. 4. disassemble and reassemble constant velocity joints. 5. remove and replace a C/V joint shaft and the C/V boot. 6. disassemble and reassemble training aid transfer case.
CS	identify power flow.	1. explain transfer case high and low range planetary gear power flow. 2. explain final drive power flow. 3. repair customer vehicles as assigned by the instructor.

F. 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 the instructor or the Student Success Center 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. This course will cover the characteristics of hazardous wastes and its safe handling, storage, and disposal.

G. COURSE CODING INFORMATION: Course Code S/Class Maximum 25; Letter Grade

Revision date: 03/09/11; 11/29/17
AASC Approval date: 12/12/17

***Riverland Community College Disciplines**	**MnTC Goal Number**
Communication	**1**
Natural Sciences	**3**
Mathematics/Logical Reasoning	**4**
History and the Social & Behavioral Sciences	**5**
Humanities and Fine Arts	**6**

**Riverland Community College Core Themes	MnTC Goal Number
Critical Thinking	**2**
Human Diversity	**7**
Global Perspective	**8**
Ethical and Civic Responsibility	**9**
People and the Environment	**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.