

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. AUTO

COURSE NUMBER: 2107

NUMBER OF CREDITS: 3

Lecture: 1 Lab: 2 OJT: 0

Course Title:

Automatic Transmissions

Catalog Description:

Automatic Transmissions explains the theory of operation of automatic transmissions and transaxles and related components. The fundamentals of service of the components of the transmissions will be introduced and practiced in this course. Students will perform the necessary skills to diagnose and repair automatic transmissions and transaxles.

Prerequisites or Necessary Entry Skills/Knowledge:

TRAN 1100

FULFILLS MN TRANSFER CURRICULUM AREA(S) (*Leave blank if not applicable*)

- Goal 1: Communication: By meeting the following competencies:
- Goal 2: Critical Thinking: By meeting the following competencies:
- Goal 3: Natural Sciences: By meeting the following competencies:
- Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- Goal 7: Human Diversity: By meeting the following competencies:
- Goal 8: Global Perspective: By meeting the following competencies:
- Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- Goal 10: People and the Environment: By meeting the following competencies:

Topics to be Covered

Transmission Fundamentals

Testing and repairing of transmission systems

Hydraulic systems

Student Learning Outcomes

Describe the operational characteristics of an electronically-controlled manual transmission/transaxle.

Identify and interpret transmission/transaxle concerns, differentiate between engine performance and transmission/transaxle concerns; determine needed action.

Check fluid level and condition in a transmission or a transaxle on vehicles equipped with a dip-stick as well as those without.
Demonstrate knowledge of pressure test including transmissions/transaxles equipped with electronic pressure control.
Diagnose electronic transmission/transaxle control systems using appropriate test equipment and service information.
Inspect, test, adjust, repair, and/or replace electrical/electronic components and circuits including computers, solenoids, sensors, relays, terminals, connectors, switches, and harnesses; demonstrate understanding of relearn procedure.
Drain and replace fluid and filter(s); use proper fluid type per manufacturer specification.
Remove and reinstall transmission/transaxle and torque converter; inspect engine core plugs, rear crankshaft seal, dowel pins, dowel pin holes, and mounting surfaces.
Inspect, leak test, flush, and/or replace transmission/transaxle oil cooler, lines, and fittings.
Disassemble and reassemble an automatic transmission.
Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations
*The required outcomes follow the Auto Service Technician (AST) model of the Board of the National Institute for Automotive Service Excellence (ASE)

Is this course part of a transfer pathway: Yes No

Revised Date: 04/2022