

**MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE**

DEPT. AUTO

COURSE NUMBER: 1120

NUMBER OF CREDITS: 3

Lecture: 1 Lab: 2 OJT 0

Course Title:

Air Conditioning

Catalog Description:

Air Conditioning identifies and defines the theory, principles, diagnosis, testing, and repairs of the air conditioning and heater system operations.

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

Air conditioning fundamentals

Air conditioning systems

Testing and repairing of air conditioning systems

Computer controlled air conditioning systems

Student Learning Outcomes

Identify heating, ventilation and air conditioning (HVAC) components and configuration.

Inspect and replace A/C compressor drive belts, pulleys, and tensioners; determine necessary action.

Identify hybrid vehicle A/C system electrical circuits and the service/safety precautions.

Inspect A/C condenser for airflow restrictions; determine necessary action.
Inspect engine cooling and heater systems hoses and pipes; determine necessary action.
Inspect A/C-heater ducts, doors, hoses, cabin filters, and outlets; identify the source of A/C system odors, and determine necessary action
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