Faculty members are required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

**DEPT. AUTO COURSE NUMBER:** 1125

**NUMBER OF CREDITS:** 3  **Lecture:** 1  **Lab:** 2

<table>
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<tr>
<th>Course Title:</th>
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<tr>
<td>Air Conditioning</td>
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<th>Catalog Description:</th>
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<td>Students will learn to identify and define the theory, principles, diagnosis, testing, and repairs of the air conditioning and heater system operations.</td>
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**FULFILLS MN TRANSFER CURRICULUM AREA(S)**

- 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:

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<th>Prerequisites or Necessary Entry Skills/Knowledge:</th>
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**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**

1. Identify heating, ventilation and air conditioning (HVAC) components and configuration.
2. Inspect and replace A/C compressor drive belts, pulleys, and tensioners; determine necessary action.
3. Identify hybrid vehicle A/C system electrical circuits and the service/safety precautions.
4. Inspect A/C condenser for airflow restrictions; determine necessary action.
5. Inspect engine cooling and heater systems hoses and pipes; determine necessary action.
6. Inspect A/C-heater ducts, doors, hoses, cabin filters, and outlets; identify the source of A/C system odors, and determine necessary action.
7. 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 National Automotive Technical Education Foundation (NATEF) certification program.*

**Is this course part of a transfer pathway:** Yes ☐  No ☒

Revised Date: 4/2020