

# Anoka Technical College

## AUTO 2175: Automotive Climate Control & Service

### A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: 2

Lab Hours/Week: 4

OJT Hours/Week: \*.\*

Prerequisites:

This course requires all three of these prerequisites

AUTO 1000 - Orientation and Safety

AUTO 1010 - General Automotive Service

AUTO 1167 - Vehicle Electronics

Corequisites: AUTO 2007 and AUTO 2007

MnTC Goals: None

This course covers the principles of automotive heating, ventilation and air conditioning (HVAC) and the fundamental service procedures used to repair and maintain those systems. As part of this course, students should be able to successfully complete the Automotive Service Excellence (ASE) Refrigerant Recovery and Recycling Certification Program in order to meet the EPA regulations and requirements, which are detailed in section 609 of the Clean Air Act of 1990. Lab experience provide the opportunity to diagnose, repair, and service vehicles. (Prerequisites: AUTO 1000, AUTO 1010, and AUTO 1167)(1 credit lecture/3 credits lab)

**B. COURSE EFFECTIVE DATES:** 06/24/1999 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Understanding temperature and pressure fundamentals
2. Cooling and heating comfort systems
3. Cooling and heating system operating principles
4. Heating and cooling system components

### D. LEARNING OUTCOMES (General)

1. Demonstrate ability to perform A/C performance test.
2. Test cooling systems for leaks and proper operation.
3. Use diagnostic equipment to analyze electronic systems.
4. Prepare accurate estimate of repairs.
5. Evaluate condition of coolant and make recommendation of service.
6. Show proficiency in reading wiring diagrams.
7. Employ safe test and repair procedures on systems under high pressure.
8. Operate A/C reclaim/recharge equipment.
9. Utilize computer based automotive service information systems to produce vehicle maintenance related service specifications and procedure.

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted