



**Course Information**

<b>Course Title</b>	Automotive Climate Control Systems
<b>Course Prefix, Num. and Title</b>	AUMT 1345
<b>Division</b>	Vocational Science
<b>Department</b>	Automotive Technology
<b>Course Type</b>	WECM Course
<b>Course Catalog Description</b>	Diagnosis and repair of manual/electronic climate control systems; includes the refrigeration cycle and EPA guidelines for refrigerant handling. May be taught manufacturer specific.
<b>Pre-Requisites</b>	Credit for AUMT 1301.
<b>Co-Requisites</b>	AUMT 1316

**Semester Credit Hours**

<b>Total Semester Credit Hours (SCH): Lecture Hours:</b>	3:2:4
<b>Lab/Other Hours</b>	
<b>Equated Pay Hours</b>	4
<b>Lab/Other Hours Breakdown: Lab Hours</b>	4
<b>Lab/Other Hours Breakdown: Clinical Hours</b>	Enter Clinical Hours Here.
<b>Lab/Other Hours Breakdown: Practicum Hours</b>	Enter Practicum Hours Here.
<b>Other Hours Breakdown</b>	List Total Lab/Other Hours Here.

**Approval Signatures**

<b>Title</b>	<b>Signature</b>	<b>Date</b>
<b>Prepared by:</b>		
<b>Department Head:</b>		
<b>Division Chair:</b>		
<b>Dean/VPI:</b>		
<b>Approved by CIR:</b>		

## Additional Course Information

**Topical Outline:** Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

Health and Safety  
Temperature and Pressure Fundamentals  
The Refrigeration System  
System Components  
Compressors and Clutches  
System Servicing and Testing  
Case and Duct Systems  
Retrofit (CFC-12 to HFC 134a)  
System Controls  
Engine Cooling and Comfort Heating Systems

### Course Learning Outcomes:

**Learning Outcomes – Upon successful completion of this course, students will:**

1. Use safety procedures including proper refrigerant handling.
2. Explain the refrigeration cycle.
3. Diagnose and repair systems including automatic temperature control.

**Methods of Assessment:**

1. Quizzes and assignments Completion of priority 1,2, and 3 items on the ASE task list, job sheets.
2. Quizzes and assignments Completion of priority 1,2, and 3 items on the ASE task list, job sheets.
3. Quizzes and assignments Completion of priority 1,2, and 3 items on the ASE task list, job sheets.

### Required text(s), optional text(s) and/or materials to be supplied by the student:

CDX Online e Textbook. & Fundamentals of Automotive Technology CDX Automotive Jones & Bartlett Learning textbook.  
Complete set of tools in compliance with the tool list.

### Suggested Course Maximum:

24

### List any specific or physical requirements beyond a typical classroom required to teach the course.

Complete auto shop lab with all the tools required by ASE to meet the standards for Automotive Climate Control Systems Certification.

**Course Requirements/Grading System:** Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

- 90%to 100% = A
- 80%to 89% = B
- 70%to79% = C
- 60%to 69% = D
- Below60% = F

The grade is based on the percentage basis between lecture and lab.

Quizzes and assignments will count 30% of the course grade. At the end of the course a final exam will be given that will count 10% of the course grade. The auto shop lab grade will count 60% of the course grade.

Lab work will be evaluated on attendance, percentage completion of priority 1, 2, and 3 items on the ASE task list, job sheets, having the required tools to perform lab work, cleanliness, and attitude.

### Curriculum Checklist:

- Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.
- Administrative WCJC Core Course.** Attach the Core Curriculum Review Forms
  - Critical Thinking
  - Communication
  - Empirical & Quantitative Skills
  - Teamwork
  - Social Responsibility
  - Personal Responsibility
- WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist