

## Master Syllabus

### AUT 1146 - Automotive Heating Ventilation & Air Conditioning Systems

**Division:** Science, Mathematics and Engineering

**Department:** Automotive Technology

**Credit Hour Total:** 3.0

**Lecture Hrs:** 1.4 **Lab Hrs:** 4.8

**Date Revised:** October 2013

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#### Course Description:

Theory and operation of automotive heating and air-conditioning systems. Includes lab activity in diagnosis, service and repair procedures. Basic hand tools required. One classroom, six lab hours per week.

#### General Education Outcomes:

- Critical Thinking/Problem Solving Competency

#### Course Outcomes:

##### Heating/cooling principles and operation

Demonstrate understanding of heating and cooling system operation.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of students correctly answer 70% of exam questions.

**Assessment Method:** Performance appraisals

**Performance Criteria:** Receive 3 out of 4 on a rubric grading scale.

##### Heating/Cooling systems

Demonstrate proper use of heating and cooling service equipment.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of students correctly answer 70% of exam questions.

**Assessment Method:** Performance appraisals

**Performance Criteria:** Receive 3 out of 4 on a rubric grading scale.

##### A/C systems diagnosis

Diagnose A/C system concerns and determine necessary repairs.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of students correctly answer 70% of exam questions.

**Assessment Method:** Performance appraisals

**Performance Criteria:** Receive 3 out of 4 on a rubric grading scale.

##### A/C systems recovery, evacuation, and recharging

Demonstrate proper use of A/C system service equipment.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of students correctly answer 70% of exam questions.

**Assessment Method:** Performance appraisals

**Performance Criteria:** Receive 3 out of 4 on a rubric grading scale.

##### Heating systems

Diagnose heating/cooling concerns and determine necessary repairs.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of students correctly answer 70% of exam questions.

**Assessment Method:** Performance appraisals

**Performance Criteria:** Receive 3 out of 4 on a rubric grading scale.

##### A/C principles and operation

Demonstrate understanding of air conditioning principles and operation.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of students correctly answer 70% of exam questions.

**Assessment Method:** Performance appraisals

**Performance Criteria:** Receive 3 out of 4 on a rubric grading scale.

#### Outline:

A/C principles of operation  
A/C system types  
A/C control components  
Air distribution  
A/C service procedures  
Automatic climate controls  
Heating & cooling principles of operation

