

# Washtenaw Community College Comprehensive Report

## UAT 267 Advanced HVAC & R Troubleshooting Effective Term: Spring/Summer 2016

### Course Cover

**Division:** Advanced Technologies and Public Service Careers

**Department:** United Association Department

**Discipline:** United Association Training

**Course Number:** 267

**Org Number:** 28200

**Full Course Title:** Advanced HVAC & R Troubleshooting

**Transcript Title:** Adv. HVAC & R Troubleshooting

**Is Consultation with other department(s) required:** No

**Publish in the Following:** College Catalog , Web Page

**Reason for Submission:** Course Change

**Change Information:**

**Credit hours**

**Total Contact Hours**

**Rationale:** Adjustments to credit hours for HLC requirements

**Proposed Start Semester:** Spring/Summer 2016

**Course Description:** This course covers methods of teaching about Electrical and Refrigerant Controls as they apply to heating ventilation, air conditioning and refrigeration technologies. This course demonstrates the use of the psychrometric properties of air in practical troubleshooting applications and various skills will be demonstrated in the classroom and on working equipment. Several psychrometric charts will be presented to clarify theory and practical applications. Limited to United Association program participants.

### Course Credit Hours

**Variable hours:** No

**Credits:** 1

**Lecture Hours: Instructor: 15 Student: 15**

**The following Lab fields are not divisible by 15: Student Min, Instructor Min**

**Lab: Instructor: 5 Student: 5**

**Clinical: Instructor: 0 Student: 0**

**Total Contact Hours: Instructor: 20 Student: 20**

**Repeatable for Credit:** NO

**Grading Methods:** Letter Grades

Audit

**Are lectures, labs, or clinicals offered as separate sections?:** NO (same sections)

### College-Level Reading and Writing

College-level Reading & Writing

### College-Level Math

### Requisites

### General Education

**Degree Attributes**

Below College Level Pre-Reqs

## **Request Course Transfer**

**Proposed For:**

## **Student Learning Outcomes**

1. Explain to apprentices and journey-people the central concepts and skills of advanced HVAC&R troubleshooting.

### **Assessment 1**

Assessment Tool: Survey of UA training coordinators/supervisors

Assessment Date: Spring/Summer 2009

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: 75% of all students through random sampling who teach the topic the subsequent year, minimum of 20 students

How the assessment will be scored:

Standard of success to be used for this assessment:

Who will score and analyze the data:

2. Demonstrate to apprentices and journey-people the proper maintenance and repair procedures related to teaching advanced HVAC&R troubleshooting.

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Standard of success to be used for this assessment:

Who will score and analyze the data:

3. Utilize approved industry and UA course/training materials to teach advanced HVAC&R troubleshooting.

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Standard of success to be used for this assessment:

Who will score and analyze the data:

## **Course Objectives**

1. Identify the features of psychrometric charts and how to read them.
2. Identify properties of air, economizers, fan laws, and latent loads.
3. Integrate knowledge and skills related to utilizing HVAC&R equipments.
4. Recognize and troubleshoot problems.
5. Demonstrate appropriate use and knowledge of course materials.

## **New Resources for Course**

## **Course Textbooks/Resources**

Textbooks

Manuals

Periodicals  
Software

**Equipment/Facilities**

<b><u>Reviewer</u></b>	<b><u>Action</u></b>	<b><u>Date</u></b>
<b>Faculty Preparer:</b> <i>Cristy Lindemann</i>	<i>Faculty Preparer</i>	<i>Jan 31, 2016</i>
<b>Department Chair/Area Director:</b> <i>Marilyn Donham</i>	<i>Recommend Approval</i>	<i>Feb 09, 2016</i>
<b>Dean:</b> <i>Brandon Tucker</i>	<i>Recommend Approval</i>	<i>Mar 10, 2016</i>
<b>Curriculum Committee Chair:</b> <i>Kelley Gottschang</i>	<i>Recommend Approval</i>	<i>Mar 31, 2016</i>
<b>Assessment Committee Chair:</b>		
<b>Vice President for Instruction:</b> <i>Michael Nealon</i>	<i>Approve</i>	<i>Apr 06, 2016</i>