

Washtenaw Community College Comprehensive Report

UAT 154 Safe Handling of Refrigerants (UA 6029) Effective Term: Spring/Summer 2018

Course Cover

Division: Advanced Technologies and Public Service Careers

Department: United Association Department

Discipline: United Association Training

Course Number: 154

Org Number: 28200

Full Course Title: Safe Handling of Refrigerants (UA 6029)

Transcript Title: Safe Hndlng Refrigerants 6029

Is Consultation with other department(s) required: No

Publish in the Following: College Catalog , Web Page

Reason for Submission: New Course

Change Information:

Rationale: New Course

Proposed Start Semester: Spring/Summer 2018

Course Description: In this course, students will identify potential hazards of refrigerants in HVACR equipment which can include toxicity, flammability, asphyxiation, and physical hazards. In addition, students will determine system design, engineering controls, and other techniques that might mitigate the risks involved in using refrigeration in various types of equipment. This course will cover EPA criteria and testing for section 608, as well as ASHRAE standards 15 and 34. Students will create lesson plans to be used at local training facility to prepare others for the EPA exam. Limited to United Association program participants.

Course Credit Hours

Variable hours: No

Credits: 1.5

The following Lecture Hour fields are not divisible by 15: Student Min ,Instructor Min

Lecture Hours: Instructor: 22.5 Student: 22.5

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

Lab: Instructor: 1.5 Student: 1.5

Clinical: Instructor: 0 Student: 0

Total Contact Hours: Instructor: 24 Student: 24

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. Recognize EPA standards for the proper use and handling of refrigerants.

Assessment 1

Assessment Tool: Written exam

Assessment Date: Spring/Summer 2018

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Answer key

Standard of success to be used for this assessment: 90% of the students will score 100%

Who will score and analyze the data: U.A. training coordinator

2. Prepare and execute a lesson plan to be used at local training facility to prepare students for the EPA exam.

Assessment 1

Assessment Tool: Teaching demonstration

Assessment Date: Spring/Summer 2018

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Departmentally-developed rubric

Standard of success to be used for this assessment: 90% of the students will score 100%

Who will score and analyze the data: U.A. training coordinator

Course Objectives

1. Review refrigeration cycle, components, and equipment as it applies to cooling and refrigeration.
2. Attach vacuum pump and gauges to a split system to determine proper pressure readings.
3. Describe the effects of specific refrigerants, equipment and hazards of pressurized cooling systems.
4. Perform proper safety precautions and procedures when handling, operating, and storing refrigeration equipment as it applies to EPA criteria and regulations.
5. Compare and contrast environmental effects of refrigerants used in the field today to those in operation prior to 2000.
6. Determine the guidelines of the EPA Significant New Alternative Program (SNAP) and its effects in the refrigeration industry.
7. Create lesson plans to be used at local training facility to prepare students for the EPA exam.

New Resources for Course

Course Textbooks/Resources

Textbooks

IPTJTC. *Conservation and Safe Handling of Refrigerants*, First ed. United Association, 2008

Manuals

Periodicals

Software

Equipment/Facilities

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
Faculty Preparer: <i>Tony Esposito</i>	<i>Faculty Preparer</i>	<i>Dec 01, 2017</i>
Department Chair/Area Director: <i>Marilyn Donham</i>	<i>Recommend Approval</i>	<i>Jan 03, 2018</i>
Dean: <i>Brandon Tucker</i>	<i>Recommend Approval</i>	<i>Jan 08, 2018</i>
Curriculum Committee Chair: <i>David Wooten</i>	<i>Recommend Approval</i>	<i>Apr 16, 2018</i>
Assessment Committee Chair: <i>Michelle Garey</i>	<i>Recommend Approval</i>	<i>Mar 28, 2018</i>
Vice President for Instruction: <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Apr 19, 2018</i>