

Washtenaw Community College Comprehensive Report

UAT 303 Safe Handling of Mildly Flammable Refrigerants (UA 6059) Effective Term: Winter 2022

Course Cover

College: Advanced Technologies and Public Service Careers

Division: Advanced Technologies and Public Service Careers

Department: United Association Department

Discipline: United Association Training

Course Number: 303

Org Number: 28200

Full Course Title: Safe Handling of Mildly Flammable Refrigerants (UA 6059)

Transcript Title: Safe Handl Flammab Refrig 6059

Is Consultation with other department(s) required: No

Publish in the Following:

Reason for Submission: New Course

Change Information:

Rationale: New United Association course

Proposed Start Semester: Winter 2022

Course Description: In this course, students will identify the safe handling guidelines of mildly flammable (A2L) refrigerants upon system installation or servicing of refrigeration and air conditioning systems. Students will be introduced to the functions, precautions and differences between to mildly flammable (A2L) and non-flammable (A1) refrigerants. In addition, students will recognize and demonstrate procedures for leak checking, evacuation and recharging A2L refrigeration systems. Limited to United Association Instructor Training program graduates.

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. Identify the properties, function, and system usages of A2L mildly flammable refrigerants and standard A1 non-flammable refrigerants.

Assessment 1

Assessment Tool: Outcome-related written exam questions

Assessment Date: Winter 2022

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 or rubric

Standard of success to be used for this assessment: 80% of the students will score 80% or higher.

Who will score and analyze the data: U.A. instructors

2. Demonstrate the recommended procedures and policies when installing and servicing A1 and A2L refrigeration equipment and systems.

Assessment 1

Assessment Tool: Demonstration

Assessment Date: Winter 2022

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Observational checklist

Standard of success to be used for this assessment: 80% of the students will score 80% or higher.

Who will score and analyze the data: U.A. instructors

3. Demonstrate evacuating and recharging an A2L refrigeration unit trainer.

Assessment 1

Assessment Tool: Demonstration

Assessment Date: Winter 2022

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Observational checklist

Standard of success to be used for this assessment: 80% of the students will score 80% or higher.

Who will score and analyze the data: U.A. instructors

Course Objectives

1. Identify the properties and function of non-flammable (A1) and mildly flammable (A2L) refrigerants.
2. Identify the categories and listings of refrigerants.
3. Compare and contrast the usage and limitations of non-flammable (A1) to mildly flammable (A2L) refrigerants.
4. Review the history of refrigeration and air conditioning systems, as well as the types of refrigerants used.
5. Identify the safety and Personal Protective Equipment (PPE) needed when handling, servicing, and operating different types of refrigerants.

6. Discuss the best practices and procedures for transporting, installing, leak checking, evacuating, and repairing refrigerant systems.
7. Identify the tools and equipment for installing and servicing A1 and A2L refrigerants.
8. Discuss and demonstrate the recommended guidelines for servicing and checking the refrigerant charge of a refrigeration system.
9. Demonstrate refrigerant recovery and recharging of system trainers.

New Resources for Course

Course Textbooks/Resources

Textbooks
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>Aug 11, 2021</i>
Department Chair/Area Director: <i>Marilyn Donham</i>	<i>Recommend Approval</i>	<i>Aug 11, 2021</i>
Dean: <i>Jimmie Baber</i>	<i>Recommend Approval</i>	<i>Aug 19, 2021</i>
Curriculum Committee Chair: <i>Randy Van Wagnen</i>	<i>Recommend Approval</i>	<i>Oct 08, 2021</i>
Assessment Committee Chair: <i>Shawn Deron</i>	<i>Recommend Approval</i>	<i>Oct 30, 2021</i>
Vice President for Instruction: <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Nov 02, 2021</i>