

# Washtenaw Community College Comprehensive Report

## UAT 368 One Day Retro Fit (UA 6035)

Effective Term: Fall 2024

### Course Cover

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

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

**Department:** United Association Department (UAT Only)

**Discipline:** United Association Training

**Course Number:** 368

**Org Number:** 28200

**Full Course Title:** One Day Retro Fit (UA 6035)

**Transcript Title:** One Day Retro Fit (UA 6035)

**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:** Fall 2024

**Course Description:** In this course, students will explore the process for one-day retro fit of both furnaces and packaged rooftop units (RTU). Students will identify and demonstrate the proper use of sheet metal tools to measure, fabricate and install transitions to existing furnace ductwork and the removal and replacement of old RTU with new curb adaptor and new RTU. Students will also demonstrate hands-on troubleshooting techniques for both furnace and RTU to identify and address potential unit problems at startup. 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 and demonstrate the proper usage of sheet metal hand tools.

**Assessment 1**

Assessment Tool: Outcome-related demonstration

Assessment Date: Fall 2024

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: 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

2. Demonstrate how to measure, draw, fabricate and install a new furnace transition piece.

**Assessment 1**

Assessment Tool: Outcome-related demonstration

Assessment Date: Fall 2024

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: 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 the removal and replacement of an existing RTU with a curb adapter and a new RTU.

**Assessment 1**

Assessment Tool: Outcome-related demonstration

Assessment Date: Fall 2024

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: 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

4. Identify potential unit problems at the start-up of an RTU.

**Assessment 1**

Assessment Tool: Outcome-related quiz

Assessment Date: Fall 2024

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: 80% of the students will score 80% or higher.

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

### Course Objectives

1. Discuss and demonstrate sheet metal tools used in replacing furnaces and rooftop units.
2. Identify personal protective equipment (PPE) required when working with furnace and RTU replacement.
3. Identify current technology and procedures that increase labor efficiency of replacing and installing RTU and furnaces.
4. Outline the process and guidelines to be observed during unit placement and transition construction.
5. Discuss and acquire measurements and develop a plan for the layout of new fittings.
6. Create drawings and fabricate transition fittings for replacement units.
7. Install and test fit transition fitting.
8. Discuss and outline the process of unit replacement, curb adaptor procurement, and installation.
9. Identify modifications needed on an RTU by comparing it to existing RTU configurations and considerations.
10. Remove the existing unit, then assemble a new adaptor and new rooftop unit (including the seal).
11. Discuss problems that occur during the start-up and commissioning of furnaces and RTUs.
12. Review common mistakes of installers and equipment according to manufacturers' specifications and online resources.
13. Identify and discuss potential long-term problems and their solutions.

### New Resources for Course

#### Course Textbooks/Resources

Textbooks

Manuals

Periodicals

Software

#### Equipment/Facilities

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
<b>Faculty Preparer:</b> <i>Tony Esposito</i>	<i>Faculty Preparer</i>	<i>Jan 30, 2024</i>
<b>Department Chair/Area Director:</b> <i>Marilyn Donham</i>	<i>Recommend Approval</i>	<i>Feb 01, 2024</i>
<b>Dean:</b> <i>Eva Samulski</i>	<i>Recommend Approval</i>	<i>Feb 18, 2024</i>
<b>Curriculum Committee Chair:</b> <i>Randy Van Wagnen</i>	<i>Recommend Approval</i>	<i>May 17, 2024</i>
<b>Assessment Committee Chair:</b> <i>Jessica Hale</i>	<i>Recommend Approval</i>	<i>May 20, 2024</i>
<b>Vice President for Instruction:</b> <i>Brandon Tucker</i>	<i>Approve</i>	<i>May 30, 2024</i>