Washtenaw Community College Comprehensive Report

UAT 253 Installation, Design, and Operation of Copper Piping Systems (UA 4005)
Effective Term: Fall 2020

Course Cover

Division: Advanced Technologies and Public Service Careers
Department: United Association Department
Discipline: United Association Training
Course Number: 253
Org Number: 28200
Full Course Title: Installation, Design, and Operation of Copper Piping Systems (UA 4005)
Transcript Title: Copper Piping Systems (4005)
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Web Page
Reason for Submission: Course Change
Change Information:
Consultation with all departments affected by this course is required.
Course title
Course description
Outcomes/Assessment
Objectives/Evaluation
Rationale: Update United Association course
Proposed Start Semester: Fall 2020
Course Description: In this course, students will review the proper methods of various copper joining techniques used in the pipe trades. Hands-on demonstration of various copper pipe joining methods including soldering and brazing as well as current mechanical techniques will be practiced. In addition, students will review installation-related field failure, troubleshooting, and prevention. Students taking this course will be able to implement these techniques at their local Training Center. The title of this course was previously Copper Piping Systems. 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. Demonstrate techniques of joining copper piping system components using industry-proven techniques.
   Assessment 1
   Assessment Tool: Skills demonstration
   Assessment Date: Fall 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Skills checklist
   Standard of success to be used for this assessment: 80% of the students will score 80% or better.
   Who will score and analyze the data: U.A. instructors

2. Evaluate copper system component joining techniques.
   Assessment 1
   Assessment Tool: Skills demonstration
   Assessment Date: Fall 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Skills 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. Prepare and present a lesson plan covering joining techniques for copper piping systems.
   Assessment 1
   Assessment Tool: Presentation
   Assessment Date: Fall 2020
   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. Apply concepts and strategies needed to teach apprentices how to identify the standards related to the manufacturing of copper and copper alloy pipes, tubes, and fittings.
2. Develop concepts and strategies needed to teach apprentices about alternative joining methods such as push-connect, press-connect, roll-grooving, mechanically formed tees (T-Drill), bending and flaring.
3. Discuss the safety and Personal Protection Equipment (PPE) needed to perform lab assignments.

4. Demonstrate the various copper piping system joining techniques.
5. Discuss instructional strategies for effective demonstrations of copper pipe joining.
6. Discuss methods to reinforce safety requirements in the classroom and on the jobsite.
7. List and discuss the requirements for evaluating copper component joining.
8. Examine samples of copper pipe joining per manufacturers' specifications.
9. Critique copper pipe joining techniques as per the requirements checklist.

New Resources for Course

Course Textbooks/Resources

Textbooks

International Pipe Trades Joint Training Committee. *Soldering and Brazing Manual*, 2 ed. International Pipe Trades Joint Training Committee, 2012

Manuals

Periodicals

Software

Equipment/Facilities

Data projector/computer

Other: Tables for students to assemble copper projects on.

Reviewer	Action	Date
Faculty Preparer:		
Tony Esposito	*Faculty Preparer*	*May 18, 2020*
Department Chair/Area Director:		
Marilyn Donham	*Recommend Approval*	*May 20, 2020*
Dean:		
Jimmie Baber	*Recommend Approval*	*May 27, 2020*
Curriculum Committee Chair:		
Lisa Veasey	*Recommend Approval*	*Aug 10, 2020*
Assessment Committee Chair:		
Shawn Deron	*Recommend Approval*	*Aug 25, 2020*
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Aug 26, 2020*