

Washtenaw Community College Comprehensive Report

UAT 251 Related Science Effective Term: Spring/Summer 2014

Course Cover

Division: Advanced Technologies and Public Service Careers

Department: United Association Department

Discipline: United Association Training

Course Number: 251

Org Number: 28200

Full Course Title: Related Science

Transcript Title: Related Science

Is Consultation with other department(s) required: No

Publish in the Following: College Catalog , Web Page

Reason for Submission: Three Year Review / Assessment Report

Change Information:

Credit hours

Total Contact Hours

Outcomes/Assessment

Objectives/Evaluation

Rationale: Course update

Proposed Start Semester: Spring/Summer 2014

Course Description: In this course, students will learn about methods of teaching about the principles of science for plumbing and pipe fitting tradespeople. Following a review, students will discuss and develop skills to instruct on topics such as properties and characteristics of water and steam, hydraulics and pneumatics, mechanics, metals, alloys, synthetics and corrosion. Students will generate ideas for their own classrooms to teach the science related to both the plumbing and pipe fitting trades. 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 the central concepts and skills of plumbing and pipefitting sciences utilizing UA approved materials.

Assessment 1

Assessment Tool: Presentation

Assessment Date: Spring/Summer 2014

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: 75% of students will score 75% or above.

Who will score and analyze the data: Departmental faculty

2. Demonstrate methods of teaching of the types of corrosion by using classroom experiments.

Assessment 1

Assessment Tool: Student project

Assessment Date: Spring/Summer 2014

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: 75% of students will score 75% or above.

Who will score and analyze the data: Departmental faculty

3. Explain the effects of atmospheric/vacuum pressures, boiling and freezing temperatures and densities at different states of matter on various materials.

Assessment 1

Assessment Tool: Essay test

Assessment Date: Spring/Summer 2014

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Rubric

Standard of success to be used for this assessment: 75% of students will score 75% or above.

Who will score and analyze the data: Departmental faculty

Course Objectives

1. Explain the theories and principles of atmospheric/vacuum pressure and densities at different states of matter.

Matched Outcomes

2. Develop concepts and strategies needed to teach apprentices how to recognize the effects of electrolysis/corrosion, erosion, evaporation/condensation, and static pressures.

Matched Outcomes

3. Demonstrate appropriate use of course materials.

Matched Outcomes

4. Incorporate internet sites, video and other media options into their specific class curriculum.

Matched Outcomes

5. Utilize the Related Science interactive CD in a class project.

Matched Outcomes

6. Interpret results of experiments demonstrated in class.

Matched Outcomes

7. Discuss cost and availability of materials needed to complete experiments.

Matched Outcomes

8. Recognize and explain commonly misunderstood material in textbook.

Matched Outcomes

9. Develop concepts and strategies needed to explain to apprentices the fundamental theories of physics through experiments.

Matched Outcomes

New Resources for Course

Course Textbooks/Resources

Textbooks

International Pipe Trades Joint Training Committee. *Related Science for United Association Journeyworkers & Apprentices*, ed. International Pipe Trades Joint Training committee, 2012

Manuals

Periodicals

Software

Related Science for United Association Journeyworkers & Apprentices. International Pipe Trades Joint Training Committee, 1 ed.
CD is supplemental with book

Equipment/Facilities

Level III classroom

Other: Chemistry laboratory classroom needed

Reviewer

Action

Date

Faculty Preparer:

Amanda Scheffler

Faculty Preparer

Jun 27, 2013

Department Chair/Area Director:

Scott Klapper

Recommend Approval

Feb 03, 2014

Dean:

Marilyn Donham

Recommend Approval

Feb 05, 2014

Vice President for Instruction:

Bill Abernethy

Approve

Mar 31, 2014