Washtenaw Community College Comprehensive Report

UAT 270 Properties of Metals
Effective Term: Spring/Summer 2016

Course Cover

Division: Advanced Technologies and Public Service Careers
Department: United Association Department
Discipline: United Association Training
Course Number: 270
Org Number: 28200
Full Course Title: Properties of Metals
Transcript Title: Properties of Metals
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 description
Credit hours
Total Contact Hours
Outcomes/Assessment
Rationale: Change credit hours, contact hours, assessment date and text.
Proposed Start Semester: Fall 2015
Course Description: In this course, students will learn methods of teaching the properties and characteristics of metals commonly used in the pipe trades. Emphasis will be given to explaining the nature of ferrous and non-ferrous metals in both their raw and manufactured form, the physical and mechanical properties of common metals and the processes used to create desired changes. 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 to apprentices and journey-people the central concepts and skills of the properties and characteristics of metals.
   Assessment 1
   Assessment Tool: Teaching demonstration
   Assessment Date: Spring/Summer 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: 75% of all students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 75% will score 11 or higher out of 16.
   Who will score and analyze the data: UAT faculty

2. Demonstrate to apprentices and journey-people the proper maintenance and repair procedures related to the properties and characteristics of metals.
   Assessment 1
   Assessment Tool: Teaching demonstration
   Assessment Date: Spring/Summer 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: 75% of all students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 75% will score 11 or higher out of 16.
   Who will score and analyze the data: UAT faculty

3. Teach to apprentices and journey-people the properties and characteristics of metals utilizing approved industry and UA course/training materials.
   Assessment 1
   Assessment Tool: Teaching demonstration
   Assessment Date: Spring/Summer 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: 75% of all students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 75% will score 11 or higher out of 16.
   Who will score and analyze the data: UAT faculty

Course Objectives

1. Recognize and describe the common physical and mechanical properties of metals.
2. Explain the properties and characteristics of metals.
3. Describe the processes used to produce steel and the effects of alloying elements.
4. Explain the effects of heating and cooling metals at various temperatures and rates.
5. Differentiate and explain the metallurgical characteristics of soldering and brazing processes and alloys.
6. Demonstrate appropriate use and knowledge of course materials.

New Resources for Course

Course Textbooks/Resources

Textbooks

Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
Justin Carter	*Faculty Preparer*	*Jul 22, 2015*
Department Chair/Area Director:		
Scott Klapper	*Recommend Approval*	*Jul 23, 2015*
Dean:		
Brandon Tucker	*Recommend Approval*	*Jul 24, 2015*
Curriculum Committee Chair:		
Kelley Gottschang	*Recommend Approval*	*Oct 07, 2015*
Assessment Committee Chair:		
Michelle Garey	*Recommend Approval*	*Oct 14, 2015*
Vice President for Instruction:		
Michael Nealon	*Approve*	*Oct 23, 2015*