

Washtenaw Community College Comprehensive Report

UAT 242 Advanced Centrifugal Water Chillers Effective Term: Spring/Summer 2016

Course Cover

Division: Advanced Technologies and Public Service Careers

Department: United Association Department

Discipline: United Association Training

Course Number: 242

Org Number: 28200

Full Course Title: Advanced Centrifugal Water Chillers

Transcript Title: Adv Centrifugal Water Chillers

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 minor text changes.

Proposed Start Semester: Fall 2015

Course Description: In this course, students will learn methods of teaching about centrifugal overhaul procedures, precision measuring techniques, teardown techniques, start-up and chiller analysis. Compressor component functionality will be stressed in order to give the student a good working knowledge of centrifugal compressor design and operation, including a step-by-step centrifugal teardown procedure. There will be 2 days of hands-on training at which time a centrifugal compressor shall be completely disassembled and rebuilt. 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 advanced centrifugal water chillers--mechanical to apprentices and journey-people.

Assessment 1

Assessment Tool: Teaching demonstration

Assessment Date: Fall 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 the proper maintenance and repair procedures related to teaching advanced centrifugal water chillers--mechanical to apprentices and journey-people.

Assessment 1

Assessment Tool: Teaching demonstration

Assessment Date: Fall 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 apprentices and journey-people advanced centrifugal water chillers--mechanical using approved industry and UA course/training materials.

Assessment 1

Assessment Tool: Teaching demonstration

Assessment Date: Fall 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. Identify the centrifugal overhaul procedures and compressor component functionality.
2. Demonstrate water chiller operation, maintenance, and teardown procedures.
3. Distinguish between different compressor functions such as lubrication, bearings, gears, fits and clearances.
4. Demonstrate the operational functions of both single and multi-state compressors.
5. Demonstrate appropriate use and knowledge of course materials.

New Resources for Course

Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
Faculty Preparer: <i>Justin Carter</i>	<i>Faculty Preparer</i>	<i>Jun 25, 2015</i>
Department Chair/Area Director: <i>Scott Klapper</i>	<i>Recommend Approval</i>	<i>Jul 02, 2015</i>
Dean: <i>Brandon Tucker</i>	<i>Recommend Approval</i>	<i>Jul 07, 2015</i>
Curriculum Committee Chair: <i>Kelley Gottschang</i>	<i>Recommend Approval</i>	<i>Sep 29, 2015</i>
Assessment Committee Chair: <i>Michelle Garey</i>	<i>Recommend Approval</i>	<i>Sep 29, 2015</i>
Vice President for Instruction: <i>Michael Nealon</i>	<i>Approve</i>	<i>Oct 06, 2015</i>