

## Washtenaw Community College Comprehensive Report

### UAT 182 Fire Pump Installation, Repair, and Maintenance (UA 7042) Effective Term: Fall 2020

#### Course Cover

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

**Department:** United Association Department

**Discipline:** United Association Training

**Course Number:** 182

**Org Number:** 28200

**Full Course Title:** Fire Pump Installation, Repair, and Maintenance (UA 7042)

**Transcript Title:** Fire Pump Install Repair 7042

**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**

**Outcomes/Assessment**

**Objectives/Evaluation**

**Rationale:** Update United Association course

**Proposed Start Semester:** Fall 2020

**Course Description:** In this course, students will develop skills for the installation, maintenance and repair of Aurora fire pumps. Hands-on activities include disassembling and reassembling of fire pumps as well as troubleshooting and repair. Students will refer to code requirements per National Fire Protection Association (NFPA) 20 and NFPA 25 for installation, repair and maintenance for fire pumps along with requirements for proper Personal Protection Equipment (PPE) per NFPA 70E. 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. Disassemble and reassemble two types of Aurora fire pumps.

#### **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 demonstration 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 proper procedure of replacing Aurora pump bearings, including proper use of bearing heater.

#### **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 demonstration 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 troubleshooting methods and alignment process of predetermined failures of Aurora pumps.

#### **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 demonstration 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. Review all safety procedures and PPE needed for fire pump hands-on lab.
2. Identify fire pump components using a PowerPoint presentation showing correct and incorrect installations.

3. Identify jockey pump piping and fitting arrangements using a PowerPoint presentation showing correct and incorrect installations.
4. Compare and contrast major and minor fire pump rebuilds and their costs in commercial and industrial applications.
5. Discuss the identification of and procedure for best techniques for proper troubleshooting.
6. Perform hands-on fire pump and driver alignment.
7. Replace bearings on fire pump motor shaft.
8. Practice disassembling and reassembling fire pumps per manufacturers' specifications.
9. Discuss the safe and proper use of bearing heaters.
10. Identify pump packing, pump vibration, and soft foot along with their failures, causes, and repairs.
11. Discuss the indications, causes, and repairs of pump driver failures.
12. Discuss the set-up and operation of the laser alignment tool.

## 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>Apr 30, 2020</i>
<b>Department Chair/Area Director:</b> <i>Marilyn Donham</i>	<i>Recommend Approval</i>	<i>May 07, 2020</i>
<b>Dean:</b> <i>Jimmie Baber</i>	<i>Recommend Approval</i>	<i>May 27, 2020</i>
<b>Curriculum Committee Chair:</b> <i>Lisa Veasey</i>	<i>Recommend Approval</i>	<i>Jul 15, 2020</i>
<b>Assessment Committee Chair:</b> <i>Shawn Deron</i>	<i>Recommend Approval</i>	<i>Jul 21, 2020</i>
<b>Vice President for Instruction:</b> <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Jul 28, 2020</i>