

## Washtenaw Community College Comprehensive Report

### UAT 359 Medical Gas Refresher (UA 4012) Effective Term: Fall 2020

#### Course Cover

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

**Department:** United Association Department

**Discipline:** United Association Training

**Course Number:** 359

**Org Number:** 28200

**Full Course Title:** Medical Gas Refresher (UA 4012)

**Transcript Title:** Medical Gas Refresher (4012)

**Is Consultation with other department(s) required:** No

**Publish in the Following:**

**Reason for Submission:** New Course

**Change Information:**

**Rationale:** New United Association course

**Proposed Start Semester:** Fall 2020

**Course Description:** In this course, students will learn current codes and standards associated with medical gas and vacuum systems as per certified instructor requirements. Students will review the National Fire Protection Association (NFPA) 99 Health Facilities Code, the American Society of Safety Engineers (ASSE) 6000 Standard, American Society of Mechanical Engineers (ASME) Section IX, ASTM B819, and ASME 16.22, while identifying current code changes. In addition, students will study and take the National Inspection Testing and Certification (NITC) recertification exam. Limited to United Association Instructor Training program graduates.

#### 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. Identify the modification and expansion of the current codes and standards associated with medical gas and vacuum systems.

**Assessment 1**

Assessment Tool: Outcome-related written exam questions

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: Answer key

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. Identify and define how temperature, pressures, dimension and certifications are associated with the applicable codes.

**Assessment 1**

Assessment Tool: Outcome-related written exam questions

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: Answer key

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. Identify the required materials, brazing procedures, relevant standards and qualification range for installing medical gas piping.

**Assessment 1**

Assessment Tool: Outcome-related written exam questions

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: Answer key

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 any current updates to NFPA 99 and ASSE 6000 content.
2. Recognize the rationale for code changes.
3. Develop instructional techniques to describe current code updates.
4. Identify acceptable temperatures of medical gases under normal operation.
5. Identify acceptable temperature range of cylinders used in medical gas.
6. Identify minimum and maximum dimension requirements for gas pipe installation and operation.

7. Discuss measuring and safety equipment used in detection of unacceptable gauge readings and unsafe conditions.
8. Compare and contrast medical gas brazing conditions with standard brazing procedures.
9. Identify specialized equipment required to perform medical gas brazing.
10. Review personal protective equipment (PPE) needed for brazing.
11. Discuss testing procedures to verify qualification range.

## New Resources for Course

### Course Textbooks/Resources

#### Textbooks

Jonathan R Hart. *NFPA 99 Medical Gas and Vacuum Installation Handbook*, Third ed. NFPA, 2018  
National Fire Protection Association. *NFPA 99 Health Care Facilities Code*, 2018 Edition ed. NFPA, 2018

National Fire Protection Association. *ASSE/IAPMO 6000 Professional Qualifications Standard for Medical Gas Systems Personnel*, 2015 Edition ed. IAPMO Group, 2015

#### 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>Jul 06, 2020</i>
<b>Department Chair/Area Director:</b> <i>Marilyn Donham</i>	<i>Recommend Approval</i>	<i>Jul 08, 2020</i>
<b>Dean:</b> <i>Jimmie Baber</i>	<i>Recommend Approval</i>	<i>Aug 07, 2020</i>
<b>Curriculum Committee Chair:</b> <i>Lisa Veasey</i>	<i>Recommend Approval</i>	<i>Oct 26, 2020</i>
<b>Assessment Committee Chair:</b> <i>Shawn Deron</i>	<i>Recommend Approval</i>	<i>Oct 27, 2020</i>
<b>Vice President for Instruction:</b> <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Oct 27, 2020</i>