

## Washtenaw Community College Comprehensive Report

### MTH 167 Math Applications for Health Science Effective Term: Winter 2018

#### Course Cover

**Division:** Math, Science and Engineering Tech

**Department:** Mathematics

**Discipline:** Mathematics

**Course Number:** 167

**Org Number:** 12200

**Full Course Title:** Math Applications for Health Science

**Transcript Title:** Math Applic for Health Sci

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

**Publish in the Following:** College Catalog , Time Schedule , Web Page

**Reason for Submission:** Three Year Review / Assessment Report

**Change Information:**

**Consultation with all departments affected by this course is required.**

**Outcomes/Assessment**

**Objectives/Evaluation**

**Rationale:** Three year review

**Proposed Start Semester:** Winter 2018

**Course Description:** In this course, students review the mathematical and algebraic skills required to solve calculations in health-related fields. The topics, which relate to safety and ethics in the health care field, include the metric system, proportions, dimensional analysis, interpretation of medication orders, basic dosage calculations and calculations used in specialty areas.

#### Course Credit Hours

**Variable hours:** No

**Credits:** 3

**Lecture Hours: Instructor:** 45 **Student:** 45

**Lab: Instructor:** 0 **Student:** 0

**Clinical: Instructor:** 0 **Student:** 0

**Total Contact Hours: Instructor:** 45 **Student:** 45

**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

Level 3

#### Requisites

#### General Education

## **Degree Attributes**

Assoc in Applied Sci - Area 3

## **General Education Area 3 - Mathematics**

Health Programs - Area 3

## **Request Course Transfer**

**Proposed For:**

## **Student Learning Outcomes**

1. Solve dosage calculation problems using proportions and dimensional analysis.

### **Assessment 1**

Assessment Tool: Final Exam

Assessment Date: Winter 2020

Assessment Cycle: Every Three Years

Course section(s)/other population: All sections

Number students to be assessed: Random sample of 50% of all students with a minimum of one full section

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 higher

Who will score and analyze the data: Departmental faculty

2. Interpret medication orders using various systems of measurement.

### **Assessment 1**

Assessment Tool: Final Exam

Assessment Date: Winter 2020

Assessment Cycle: Every Three Years

Course section(s)/other population: All sections

Number students to be assessed: Random sample of 50% of all students with a minimum of one full section

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 higher

Who will score and analyze the data: Departmental faculty

## **Course Objectives**

1. Perform conversions and applications with the metric system as applied to health science.
2. Use appropriate abbreviations within all systems.
3. Solve proportions.
4. Use direct proportions to solve drug dosage problems.
5. Use dimensional analysis to solve drug dosage problems.
6. Use problem-solving techniques to set up and perform calculations on story problems involving oral medications.
7. Use problem-solving techniques to set up and perform calculations on story problems involving parenteral drugs in solution.
8. Use problem-solving techniques to set up and perform calculations on story problems involving powder and crystalline-form drugs.
9. Use problem-solving techniques to set up and perform calculations on story problems involving insulin dosage calculations.
10. Use problem-solving techniques to set up and perform calculations on story problems involving calculations of intravenous fluids and medications.
11. Apply safety and ethical standards to dosage calculations and administration of medications.

**New Resources for Course****Course Textbooks/Resources**

## Textbooks

Booth, Whaley, Sienkiewicz, Palmunen. *Math & Dosage Calculations for Health Care Professionals*,  
4th ed. New York: McGraw Hill, 2012

## Manuals

## Periodicals

## Software

**Equipment/Facilities**

<b><u>Reviewer</u></b>	<b><u>Action</u></b>	<b><u>Date</u></b>
<b>Faculty Preparer:</b> <i>Laura Perez</i>	<i>Faculty Preparer</i>	<i>Jul 11, 2017</i>
<b>Department Chair/Area Director:</b> <i>Lisa Rombes</i>	<i>Recommend Approval</i>	<i>Jul 12, 2017</i>
<b>Dean:</b> <i>Kristin Good</i>	<i>Recommend Approval</i>	<i>Jul 13, 2017</i>
<b>Curriculum Committee Chair:</b> <i>Lisa Veasey</i>	<i>Recommend Approval</i>	<i>Sep 27, 2017</i>
<b>Assessment Committee Chair:</b> <i>Michelle Garey</i>	<i>Recommend Approval</i>	<i>Sep 28, 2017</i>
<b>Vice President for Instruction:</b> <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Oct 05, 2017</i>