



## Syllabus

### MAT 115 Mathematics for Health Care Professionals

#### General Information

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**Date**

February 28th, 2020

**Author**

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**Department**

Mathematics

**Course Prefix**

MAT

**Course Number**

115

**Course Title**

Mathematics for Health Care Professionals

#### Course Information

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**Credit Hours**

1

**Lecture Contact Hours**

1

**Lab Contact Hours**

0

**Other Contact Hours**

0

**Catalog Description**

With the goal of improving safety in medication administration, Mathematics for Health Care Professionals is designed to expose students who are pursuing degrees leading to a career in health care to all pertinent aspects of medical dosage calculations. Using dimensional analysis as the primary computational tool, the course will proceed from dosage calculations involving tablets and capsules to the more complex calculations involving therapeutic safe dose ranges and intravenous infusions.

**Prerequisites**

None

**Co-requisites**

None

**Grading Scheme**

Satisfactory/Unsatisfactory

#### First Year Experience/Capstone Designation

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This course DOES NOT satisfy the outcomes applicable for status as a FYE or Capstone.

#### SUNY General Education

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This course is designated as satisfying a requirement in the following SUNY Gen Ed category

None

# FLCC Values

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## Institutional Learning Outcomes Addressed by the Course

Inquiry

## Course Learning Outcomes

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### Course Learning Outcomes

1. Apply dimensional analysis to solve dosage calculation problems.
2. Interpret the abbreviations used in dosage calculation problems.
3. Attend to accuracy and precision appropriate to the medication being administered when performing computations.

## Program Affiliation

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This course is not required as a core course in a program

## Outline of Topics Covered

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1. Medication terminology and abbreviations
2. Introduction to dimensional analysis
3. Conversion factors necessary to perform dosage calculations
4. Oral and parenteral medications in solid and liquid form
5. Dosages based on patient weight
6. Intravenous infusions by gravity drips and infusion pumps
7. Pediatric dosages and the calculation of therapeutic safe dose ranges
8. Heparin protocols for both newly admitted and previously admitted patients, including adjustments to continuous IV Heparin therapy based on aPTT results

In addition to the topics outlined above, appropriate rounding rules for all types of medications and delivery systems will be delineated and stressed throughout the course.