

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
MTH 126 - MATHEMATICS FOR ALLIED HEALTH (2 CR.)**

Course Description

Presents scientific notation, precision and accuracy, decimals and percents, ratio and proportion, variation, simple equations, techniques of graphing, use of charts and tables, logarithms, and the metric system. Lecture 2 hours per week.

General Course Purpose

This course is designed to provide the mathematics needed for the student studying nursing, radiography, respiratory therapy, medical technology, medical records, and veterinary technology.

Course Prerequisites/Corequisites

Prerequisites: Competency in Math Essentials Units MTE 1-3 as demonstrated through placement and diagnostic tests, or by completion through unit 3 in an MTT course. A student who provides official evidence of a minimum mathematics score of 520 on the SAT or a minimum score of 22 on the ACT taken within the last two years may register for these courses without taking the math placement test. Competency in Math Essentials Units MTE 1-5 or equivalent is desirable

Course Objectives

Upon completion of this course, the student should be able to:

- Perform operations with mixed numbers, fractions, decimals and percents.
- Use scientific notation.
- Solve exercises involving ratio and proportion.
- Work with and understand logarithms as they appear in the pH formula.
- Solve simple equations with one variable.
- Graph equations with two variables.
- Create and interpret charts and tables.
- Convert within and among English, metric, household, and apothecary measurement systems.
- Perform tablet and liquid dosage calculations, and compute the IV drop factor.

Major Topics to be Included

- A. Fractions, Decimals and Percents
 1. Perform arithmetic operations.
 2. Convert from one form to another.
 3. Incorporate precision and accuracy.
 4. Solve exercises involving percent.
 5. Only use a calculator to confirm computations.* (stress correct entry of multiple operations.)
- B. Scientific Notation
- C. Ratio, Proportion, Variation
 1. Use dimensional analysis when computing with units.
- D. Logarithms
 1. Find the log of a number using a scientific calculator and a log table.
 2. Use the formula $\text{pH} = -\log[\text{H}^+]$ to find the pH given $[\text{H}^+]$.

- E. Simple Equations
 - 1. Solving equations in one variable.
 - 2. Evaluate formulas, given values for all but one of the variables.
- F. Graph equations with two variables.
- G. Create and interpret charts and tables.
- H. Systems of Measurement
 - 1. English
 - 2. Metric
 - 3. Apothecary
 - 4. Household
 - 5. Perform conversions within and between these systems.
- I. Prepare dosages and solutions.
 - 1. Abbreviations and symbols
 - 2. Liquid and tablet dosage computations
 - 3. I.V. rates of flow
 - 4. Reconstitutions and mixing from stock solutions
 - 5. Calculating dosages based on weight/volume ratios

* Students should also be informed that when they take their licensing exams, they might not be able to use a calculator. They should be **able** to do all calculations by paper and pencil methods when required.