

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY  
MTE 1 – OPERATIONS WITH POSITIVE FRACTIONS (1 CR.)**

**Course Description**

Includes operations and problem solving with proper fractions, improper fractions, and mixed numbers without the use of a calculator. Emphasizes applications and includes U. S. customary units of measure. Credit is not applicable toward graduation. Lecture 1 hour per week.

**General Course Purpose**

The purpose of this course is to develop competency in operations and problem solving with positive fractions necessary to succeed in 100-level math courses.

**Course Prerequisites/Co-requisites**

Prerequisite: Qualifying placement score

**Course Objectives**

Upon completing the course, students will be able to:

- 1.1 Write, simply and compare fractions.**
  - 1.1.1 Express parts of a whole using fraction notation.
  - 1.1.2 Convert between improper fractions and mixed numbers.
  - 1.1.3 Express repeated factors using exponents.
  - 1.1.4 Find the prime factorization of a given number.
  - 1.1.5 Write fractions in simplest form.
  - 1.1.6 Compare two quantities in the form of a ratio or rate in simplest form.
  - 1.1.7 Find the least common multiple (LCM) of two or more whole numbers.
  - 1.1.8 Find the least common denominator (LCD) of two or more fractions.
  - 1.1.9 Determine the relationship ( $<$ ,  $>$ ,  $=$ ) between two fractions with unlike denominators.
- 1.2 Perform operations with fractions.**
  - 1.2.1 Add and subtract fractions and mixed numbers with like denominators.
  - 1.2.2 Add and subtract fractions and mixed numbers with unlike denominators.
  - 1.2.3 Multiply fractions and mixed numbers.
  - 1.2.4 Divide fractions and mixed numbers.
  - 1.2.5 Simplify expressions involving fractions using order of operation.
- 1.3 Solve application using U.S. customary units of measurement.**

**Major Topics to be Included:**

- 1.1 Write, simplify, and compare fractions.
- 1.2 Perform operations with fractions
- 1.3 Solve applications using U.S. customary units of measurement.