

**J. Sargeant Reynolds Community College  
Course Content Summary**

**Course Prefix and Number: MTE 1**

**Credits: 1**

**Course Title:** Operations with Positive Fractions

**Course Description (as it should appear in the catalog)**

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. Credits not applicable toward graduation. Prerequisite: placement recommendation or BSK1. Lecture 4 hours per week for  $\frac{1}{4}$  semester.

**General Course Purpose**

This course is designed to provide understanding and practice in fractions and operations on fractions.

**Course Objectives** (Each item should complete the following sentence.)

Upon completing the course, the student will be able to:

1. Express parts of a whole using fraction notation.
2. Convert between improper fractions and mixed numbers.
3. Express repeated factors using exponents.
4. Find the prime factorization of a given number.
5. Write fractions in simplest form.
6. Compare two quantities in the form of a ration or rate in simplest form.
7. Find the least common multiple (LCM) of two or more whole numbers.
8. Find the least common denominator (LCD) of two or more fractions.
9. Determine the relationship ( $<$ ,  $>$ ,  $=$ ) between two fractions with unlike denominators.
10. Add and subtract fractions and mixed numbers with like denominators.
11. Add and subtract fractions and mixed numbers with unlike denominators.
12. Multiply fractions and mixed numbers.
13. Divide fractions and mixed numbers.
14. Simplify expressions involving fractions using order of operations.
15. Solve applications using U.S. customary units of measurement.

**Major Topics to be Included**

1. Writing, simplifying, and comparing fractions
2. Performing operations with fractions
3. Solving applications using U.S. customary units of measurement

**Effective Date of Course Content Summary (Month, Date Year):** January 2, 2012