



**The requirements to pass this class are the following:**

**S (Satisfactory):** requires that you meet *all three* of these conditions:

- 1. Exit Exam score 60% or higher; and**
- 2. Average of all 7 tests (including the Exit Exam) 70% or higher; and**
- 3. At least 24 lab hours as described above under “lab requirement”**

**An “S” grade permits you to move on to MAT 1033 (Intermediate Algebra).**

**P (Progress):** will be awarded if you meet exactly two of the three requirements for an “S” grade and your average for all 7 tests is at least 60%. Not a passing grade.

**U (Unsatisfactory):** will be awarded if you meet less than two of the three requirements for an “S” grade, or if your average for all 7 tests is below 60%.

A “U” grade requires that you repeat MAT 0020 before taking any other Math course. A “U” grade affects your grade point average.

**Incompletes:** Incompletes will be given in very limited situations. In order to qualify for an “I” grade, the student must be passing the course at the time the “I” grade is negotiated; be so near the end of the course that he/she requires no further instruction; and have a justifiable and documented reason for not being able to finish the course on schedule.

**HOMEWORK:** Homework will be assigned at the end of each lecture. It will not be collected but questions will be answered at the beginning of each class. If you do not do your homework your chances of passing this course are minimal, so keep up with the work!

**WIDTHDRAWAL POLICY:** If you decide to withdraw from this course it is your responsibility to do so in order to receive a grade of “W”. Drop/withdrawals should be conducted through the office of the registrar. **A student who is absent three consecutive classes may be dropped from the class.**

**CLASSROOM BEHAVIOR:** *Cellular phones and other electronic devices must be turned off before class.* Under no circumstances a student will be allowed to use a cell phone inside the classroom.

**Please, be prompt.** Late arrivals are very disturbing for the instructor and disruptive to fellow students. You should plan to leave enough time to allow for traffic, parking, inclement weather, etc.

***“Cheating and plagiarism will not be tolerated. If you are caught cheating or plagiarizing in any form, you will receive a failing grade for the course and be reported to the college for appropriate disciplinary action”.***

# College Preparatory Math

## Course Competencies:

Competency 1: The student will demonstrate knowledge of fractions and rational expressions by:

- a. identifying a fraction as part of a whole
- b. writing fractions and rational expressions in lowest terms
- c. performing operations of multiplication, division, addition and subtraction on fractions
- d. changing improper fractions to mixed numerals and mixed numerals to improper fractions

Competency 2: The student will demonstrate knowledge of decimals by:

- a. identifying the place value of digits in decimal numerals
- b. changing decimals to fractions
- c. rounding off a given decimal
- d. performing the operations of addition, subtraction, multiplication and division with decimals
- e. solving real life applications involving operations with decimals

Competency 3: The student will demonstrate knowledge of basic measurement of geometric figures by:

- a. finding the perimeter of polygons and the circumference of circles
- b. finding the area of polygonal and circular regions
- c. solving applications that require the use of perimeter or area of geometric figures

Competency 4: The student will demonstrate knowledge of real numbers by:

- a. performing operations of addition, subtraction, multiplication and division with real numbers
- b. applying the order of operations agreement on real numbers
- c. recognizing and applying the commutative, associative, identity, inverse and distributive properties of real numbers
- d. evaluating and interpreting absolute value
- e. ordering real numbers on a number line

Competency 5: The student will demonstrate knowledge of algebraic expressions and polynomials by:

- a. evaluating algebraic expressions
- b. simplifying algebraic expressions
- c. using the properties of exponents to simplify exponential expressions
- d. performing the operations of addition, subtraction, and multiplication on polynomials
- e. dividing a polynomial by a monomial

Competency 6: The student will demonstrate knowledge of scientific notation by:

- a. Converting decimal notation to scientific notation and scientific notation to decimal notation
- b. Multiplying and dividing numbers that are in scientific notation

Competency 7: The student will demonstrate knowledge of linear equations by:

- a. solving linear equations in one variable
- b. solving linear equations in one variable that have no solution or an infinite number of solutions
- c. solving application problems involving linear equations
- d. solving literal equations including those with relevance in the natural and social sciences

Competency 8: The student will demonstrate knowledge of linear inequalities by:

- a. solving linear inequalities in one variable
- b. graphing their solution sets on the number line
- c. using interval or set-builder notation to express the solution of linear inequalities in one variable

Competency 9: The student will demonstrate knowledge of proportions and percent by:

- a. setting up and solving problems with proportions
- b. converting any number from one form (fraction, decimal, percent) to another
- c. solving percent application problems

**Competency 10: The student will demonstrate knowledge of graphing by:**

- a. plotting ordered pairs in a Cartesian coordinate plane
- b. identifying the coordinates of points and naming the quadrant or axis on which they lie
- c. graphing linear equations in two variables using a table of values
- d. graphing linear equations in two variables using the x-intercept and the y-intercept
- e. identifying the intercepts from the graph of a line
- f. graphing horizontal and vertical lines

**Competency 11: The student will demonstrate knowledge of factoring and quadratic equations by:**

- a. factoring out the greatest common factor in polynomials
- b. factoring by grouping
- c. factoring quadratic trinomials
- d. factoring special products
- e. solving quadratic equations by factoring

**Competency 12: The student will demonstrate knowledge of radical expressions by:**

- a. simplifying square roots of monomials
- b. adding, subtracting and multiplying square roots

## COURSE OUTLINE

Please note: Test dates are given for the students' convenience only. I reserve the right to make changes in the test dates as needed. Any changes will be announced in class as far in advance as possible.

### **Course Outlines**

#### **Week 1**

- 01/06 1.1 Variables, Exponents, and Order of Operations  
01/08 1.2 Unit Conversions and Perimeters of Geometric Figures

#### **Week 2**

- 01/13 1.3 Areas of Geometric Figures, **Quiz 1(1.1 – 1.3)**  
01/15 1.5 Introduction to Integers  
1.6 Addition of Integers

#### **Week 3**

- 01/20 1.7 Subtraction of Integers and Combining Like Terms  
1.8 Polynomials Definitions and Combining Polynomials  
01/22 **Test 1 (1.1-1.3, 1.5-1.8)**

#### **Week 4**

- 01/27 2.1 Multiplications of Integers  
01/29 2.2 Multiplication Law of Exponents  
2.3 Products of Polynomials

#### **Week 5**

- 02/03 2.4 Special Products  
2.5 Division of Integers and Order of Operations with Integers  
02/05 2.6 Quotient Rule and Integer Exponents  
**Quiz 2 (2.1 – 2.6)**

#### **Week 6**

- 02/10 2.7 Power Rule for Quotient and Using Combined Laws of Exponents  
2.8 Division of Polynomials by Monomials  
2.9 An Application of Exponents: Scientific Notation  
02/12 **Test 2 (Ch. 2)**

#### **Week 7**

- 02/17 3.1 Addition Property of Equality  
3.2 Multiplication Property of Equality  
3.3 Combining Properties in Solving Linear Equations  
3.4 Using and Solving Formulas  
02/19 Review for Midterm  
**Quiz 3 ( 3.1 – 3.4)**

#### **Week 8**

- 02/22 3.5 Solving Linear Inequalities  
3.6 General, Consecutive Integer, and Distance Application Problems  
3.7 Money, Investment, and Mixture Application Problems  
3.8 Geometric Application Problems  
02/24 **MIDTERM (Ch. 1, 2, 3)**

#### **Week 9**

- 03/03 **Quiz 4 (3.5-3.8)**  
4.1 Reading Graphs and the Cartesian Coordinate System  
4.2 Graphing Linear Equations with Two Variables  
4.3 Graphing Linear Equations Using Intercept

#### **Week 10**

- 03/10 **Test 3 (3.5-4.3)**  
5.1 Prime Factorization and Greatest Common Factor  
5.2 Factoring Polynomials with Common Factors and by Grouping  
5.3 Factoring General Trinomial with Leading Coefficients of One  
03/12 5.4 Factoring General Trinomial with Leading Coefficients Other Than One

5.5 Factoring Binomials  
5.6 Factoring Perfect Square Trinomials  
**Quiz 5 (5.1 – 5.6)**

**Week 11**

03/17 5.6 Factoring Perfect Square Trinomials  
5.7 Mixed Factoring  
5.8 Solving Quadratic Equations by Factoring  
**Test 4 (Ch.5)**

03/19 6.1 Fraction and Rational Numbers  
6.2 Reducing Rational Numbers and Rational Expressions  
6.3 Further Reduction of Rational Expressions

**Week 12**

03/24 6.4 Multiplication of Rational Numbers and Expressions  
6.5 Further Multiplication of Rational Expressions  
6.6 Division of Rational Numbers and Expressions  
03/26 6.7 Division of Polynomials (Long Division)

**Quiz 6 (6.1 – 6.7)**

**Week 13**

03/31 7.1 Addition and Subtraction of Rational Numbers  
and Expressions with Like Denominators  
7.2 Least Common Multiple and Equivalent Rational Expressions

04/02 **Test 5 (Ch.6, 7.1, 7.2)**

8.1 Ratios and Rates  
8.2 Proportions  
8.3 Percents

**Week 14**

04/07 8.4 Applications of Percent  
8.5 Further Applications of Percent  
10.1 Defining and Finding Roots

04/09 10.2 Simplifying Radicals  
**Quiz 7 (8.4, 8.5, 10.1, and 10.2)**

**Week 15**

04/14 10.3 Products and Quotients of Radicals  
10.4 Addition, Subtraction, and Mixed Operations with Radicals

04/16 **Test 6 (Ch. 8.1-8.5, 10.1-10.4)**

**Week 16**

04/21, 04/23 **Review Exit Test**

**Week 17**

04/28 **Final Exit Exam**