

## Math 353- Instructional Objectives and Student Learning Outcomes

**The goals for this course are to introduce students to the fundamentals of beginning algebra and to provide them with the necessary skills for success in intermediate algebra.**

<b>Instructional Objective</b> Students enrolled in this class will:	<b>Corresponding Learning Outcomes</b> Students who successfully complete this course will be able to:
1. Review the properties of real numbers and perform arithmetic operations with real numbers and algebraic expressions.	<ul style="list-style-type: none"> <li>a. Add, subtract, multiply, and divide real numbers.</li> <li>b. Use the order of operations.</li> <li>c. Use commutative, associative and distributive properties to perform operations with real numbers and algebraic expressions.</li> </ul>
2. Learn to solve linear equations and inequalities.	<ul style="list-style-type: none"> <li>a. Solve linear equations and formulas.</li> <li>b. Solve linear inequalities.</li> <li>c. Translate verbal expressions into algebraic expressions, equations and inequalities.</li> </ul>
3. Learn to graph linear equations and inequalities.	<ul style="list-style-type: none"> <li>a. Plot points and graph lines in the coordinate plane.</li> <li>b. Find slope and intercepts of a line.</li> <li>c. Recognize the slope-intercept form, the point-slope form and the standard form of the equation of a line.</li> <li>d. Solve problems using the three aforementioned forms of the equation of a line.</li> </ul>
4. Learn to perform algebraic operations with polynomials.	<ul style="list-style-type: none"> <li>a. Use the properties of exponents.</li> <li>b. Identify the coefficients, terms, and degree of polynomials.</li> <li>c. Use commutative, associative and distributive properties to combine like terms in a polynomial.</li> <li>d. Add, subtract and multiply polynomials.</li> <li>e. Divide polynomials by monomials and binomials.</li> <li>f. Perform operations using scientific notation.</li> </ul>
5. Learn to factor polynomials using the basic factorization techniques.	<ul style="list-style-type: none"> <li>a. Factor polynomials by factoring out the GCF.</li> <li>b. Factor trinomials.</li> </ul>

	<ul style="list-style-type: none"> <li>c. Factor difference of squares, difference of cubes, and sums of cubes.</li> <li>d. Solve polynomials equations using factoring.</li> <li>e. Solve application problems using polynomials.</li> </ul>
<p>6. Learn to perform algebraic operations with rational expressions and equations.</p>	<ul style="list-style-type: none"> <li>a. Simplify simple and complex rational expressions.</li> <li>b. Add, subtract, multiply and divide rational expressions.</li> <li>c. Solve rational equations.</li> <li>d. Solve application problems using rational expressions and equations.</li> </ul>