

**MAT088 Introductory Algebra with Lab**

As a result of home and classroom study, the students at the termination of this course will demonstrate the following knowledge and skills:

OUTCOMES	ACTIVITIES	ASSESSMENT
Perform arithmetic operations with real numbers	<ol style="list-style-type: none"> <li>1. Add, subtract, multiply, and divide whole numbers, signed numbers, decimal numbers and fractions.</li> <li>2. Demonstrate an understanding of place value by writing a given numeral in standard notation, expanded notation, and in words.</li> <li>3. Convert fractions into their decimal equivalents.</li> <li>4. Convert between regular decimal notation and scientific notation.</li> <li>5. Solve related application problems</li> </ol>	<ol style="list-style-type: none"> <li>1. Web-based homework problems.</li> <li>2. Hand-in assignments.</li> <li>3. In-class problems.</li> <li>4. Web-based quizzes.</li> <li>5. In-class tests.</li> </ol>
Use the Order of Operations to do calculations	<ol style="list-style-type: none"> <li>1. Simplify an expression using the order of operations agreement.</li> <li>2. Simplify expressions using exponents</li> </ol>	<ol style="list-style-type: none"> <li>1. Web-based homework problems.</li> <li>2. Hand-in assignments.</li> <li>3. In-class problems.</li> <li>4. Web-based quizzes.</li> <li>5. In-class tests.</li> </ol>
Translate English sentences about numbers into algebraic equations	<ol style="list-style-type: none"> <li>1. Differentiate between an expression and an equation.</li> <li>2. Correctly identify English phrases corresponding to addition, subtraction, multiplication and division</li> <li>3. Construct an algebraic equation from a sentence about quantities.</li> </ol>	<ol style="list-style-type: none"> <li>1. Web-based homework problems.</li> <li>2. Hand-in assignments.</li> <li>3. In-class problems.</li> <li>4. Web-based quizzes.</li> <li>5. In-class tests.</li> </ol>
Solve and graph linear equations/inequalities and functions	<ol style="list-style-type: none"> <li>1. Determine whether a given number is a solution of an equation/inequality.</li> <li>2. Solve equations/inequalities containing fractions and parentheses.</li> <li>3. Solve literal equations.</li> <li>4. Translate and solve number problems, percent problems, ratio and proportion problems.</li> <li>5. Plot points and find the coordinates of a given point.</li> <li>6. Graph an equation/inequality by plotting points, by finding the <math>x</math>-, and <math>y</math>-intercepts, and by using the slope-intercept method.</li> <li>7. Find the slope of a line given two points or given an equation of the line.</li> <li>8. Write an equation of a line given a point and the slope, two points, or information about parallel and perpendicular lines.</li> <li>9. Determine when two lines are parallel, perpendicular or neither.</li> </ol>	<ol style="list-style-type: none"> <li>1. Web-based homework problems.</li> <li>2. Hand-in assignments.</li> <li>3. In-class problems.</li> <li>4. Web-based quizzes.</li> <li>5. In-class tests.</li> </ol>
Solve two simultaneous linear equations by several methods	<ol style="list-style-type: none"> <li>1. Solve a system of linear equations in two variables by graphing, the substitution method, and the addition method.</li> <li>2. Determine if a system of linear equations is inconsistent or dependent.</li> </ol>	<ol style="list-style-type: none"> <li>1. Web-based homework problems.</li> <li>2. Hand-in assignments.</li> <li>3. In-class problems.</li> <li>4. Web-based quizzes.</li> <li>5. In-class tests.</li> </ol>

Solve application problems involving linear equations	1. Solve mixture, percentage, distance, and number word problems.	1. Web-based homework problems. 2. Hand-in assignments. 3. In-class problems. 4. Web-based quizzes. 5. In-class tests.
Use a graphing calculator	2. Use the calculator to evaluate expressions. 3. Use the calculator to build a table of values for a function. 4. Use the calculator to graph an equation/inequality. 5. Use the calculator to find the intersection of two lines.	1. Hand-in assignments 2. In-class problems 3. In-class tests