

Math 227 Lab Component

| COURSE CONTENT AND SCOPE - Lab: Outline the topics included in the lecture portion of the course (<i>Outline reflects course description, all topics covered in class</i>). | Hours Per Topic | COURSE OBJECTIVES – Lab: Upon successful completion of this course, the student will be able to...(Use action verbs – see Bloom's Taxonomy for 'action verbs requiring cognitive outcomes.') |
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| Fractions, decimals, and percents. Significant digits, place value, and scientific notation. | 5 | Perform conversions among fractions, decimals, and percent. Define significant digits. Round decimal numbers to the given place value. Perform conversions between scientific notation and decimal notation. |
| Exponents, square roots, and order of operations. | 5 | Simplify expressions with square roots and exponents. Evaluate expressions using the order of operations. |
| Summation. | 1 | Evaluate expressions using summation notation. Find the sum of a list of values. |
| Statistical technology, such as TI graphing calculators, Excel, Minitab, or other statistical software packages. | 4 | Compute descriptive statistics, including mean, standard deviation, and variance, draw graphs, construct confidence intervals, and perform hypothesis testing. |
| Linear equations in two variables including standard form, slope-intercept form, and the point-slope form. Graphs, estimation, and predictions. | 6 | Graph linear equations in standard form and in slope-intercept form. Interpret the slope and the y-intercept for linear applications modeled by a linear equation. Formulate the equation of a line given the slope and a point, and given two points on the line. Estimate the y-values based on the given x-values. Interpret the results. |
| Linear equations and linear inequalities in one variable. Solving equations and Inequalities. | 6 | Translate key words such as "at most" and "at least" into a mathematical inequality. Solve linear equations and inequalities containing integers, fractions, and decimals. Solve equations and inequalities for a specified variable. |
| Set theory and Venn diagrams. | 1 | Construct Venn diagrams to represent operations for sets, such as union, intersection, and complement. |
| Tree diagrams, sample spaces, and probability. | 3 | Construct tree diagrams to find sample spaces for a sequence of experiments; compute basic probabilities of events. |
| Counting theory. | 3 | Solve counting problems using the multiplication principle, permutations, and combinations. |
| Contingency tables. | 2 | Interpret contingency tables. Perform computations using contingency tables and interpret the results. |
| Total: | 36 | |
| Total Lab Hours In Section I Class Hours: | 36 | |