

MAT 110 Course Outline (KCTCS Course)

MAT 110 Applied Mathematics (3) - (Former MT 110)

Description:

This course includes the concepts of ratio and proportion, units and conversions, linear equations in two variables, inequalities, graphing and writing equation of a line, percents, interest, descriptive statistics, and logical symbolism. Emphasis is on applications in the various technologies.

Pre-requisites: MT 065 or equivalent as determined by KCTCS placement examination

Course Competencies:

Upon completion of this course, the student can:

1. Write the equation of a given line and graph linear equations in two variables;
2. Solve systems of linear equations in two variables;
3. Set up and solve ratios and proportions;
4. Use and interpret scientific notation;
5. Convert between various units of measure;
6. Solve problems involving percents;
7. Solve problems involving significant digits, and accuracy and precision of measurements.
8. Solve problems involving simple and compound interest;
9. Calculate and interpret basic descriptive statistical measures such as mean, median, mode, range, variance, and standard deviation and use the normal distribution.
10. Use logic to determine the validity of arguments.
11. Solve application problems involving the above competencies.

Course Outline:

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| I. Number Theory and the Real Number System | B. Solving Inequalities |
| A. Prime Numbers and Divisibility | C. Applications |
| B. Least Common Multiple and Greatest Common Divisor | V. Consumer Mathematics |
| C. Rules of Exponents | A. Percents |
| D. Scientific Notation | B. Simple and Compound Interest |
| E. Operations with Square Roots | C. Applications |
| F. Applications | VI. Statistics |
| II. Measurements and Units | A. Sampling Techniques |
| A. Significant Digits | B. Statistical Graphs and Charts |
| B. Precision and Accuracy | C. Measures of Central Tendency (Mean, Median, Mode) |
| C. Metric Units of Measurement | D. Measures of Dispersion (Range, Variance, Standard Deviation) |
| D. Conversions to and from U.S. Customary ("Standard") System of Measurement | E. Using the Normal Distribution Curve |
| E. Applications | F. Applications |
| III. Algebra and Graphs | VII. Logic |
| A. Solving Linear Equations in One Variable | A. Conjunction, Disjunction, and Conditionals |
| B. Solving Proportions | B. Truth Tables |
| C. Graphing Lines | C. Categorical Propositions |
| D. Writing the Equation of a Given Line | D. Fallacies and Valid Arguments |
| E. Applications | E. Applications |
| IV. Inequalities and Systems of Linear Equations | |
| A. Solving Systems of Linear Equations | |