

# Math 0275: Support Course for Statistics for the Health and Social Sciences

**Credit hours:** 2 remediation (in-house) credits with a Pass/Fail grade scheme

**Prerequisites:** Math 0099 with a grade of C or better and concurrent enrollment in the Math 1175 course with the same section number.

## Course Description

This course provides active support for students taking Math 1175 through the use of a just in time remediation approach. Students in this class will also be taking Math 1175 with the same instructor concurrently. The additional two hours per week is used to review and develop key mathematical skills necessary to fully succeed in Math 1175.

## Course Objectives

1. Develop the critical thinking and study skills necessary for success in Math 1175
2. Make the transition from developmental mathematics to Math 1175
3. Reach a level of mathematical maturity necessary for success in Math 1175

## Learning Outcomes

1. Perform mathematical operations with whole numbers, integers, decimals and fractions without a calculator
2. Solve computational problems involving whole numbers, integers, decimals and fractions
3. Simplify and work with ratios, rates and proportions
4. Convert between percentages, fractions and decimals
5. Solve problems using the percent equation proportion
6. Simplify algebraic expressions
7. Solve linear equations and inequalities of one variable
8. Use linear equations in one variable to solve word problems
9. Plot ordered pairs and produce ordered pair solutions of two variable equations
10. Construct equations of lines in slope intercept form and interpret graphs

## Course Topics

- I. REVIEW OF ARITHMETIC OPERATIONS (This should be a quick review and be done during the first week of class)
  - A. Add, subtract, multiply and divide whole numbers
  - B. Operation with integers
  - C. Operations with fractions
  - D. Operations with decimals
  - E. Order of operations with real numbers
  - F. Problem solving with real numbers
- II. RATIOS, RATES AND PROPORTIONS
  - A. Simplify ratios
  - B. Rates and unit rates
  - C. Use proportions to solve problems
- III. PERCENTAGES
  - A. Convert between percentages, decimals and fractions
  - B. Solve basic percent problems using percent equations or percent proportions

#### IV. INTRODUCTORY ALGEBRA

- A. Simplify algebraic expressions by using the distributive property and combining like terms
- B. Solve linear equations of one variable
- C. Solve word problems which require a one variable linear equation
- D. Solve linear inequalities of one variable and graph the solutions on a number line
- E. Solve problems which require a one variable linear inequality (emphasis on problems involving mean)

#### V. GRAPHING

- A. Plot ordered pairs in the  $xy$ -plane
- B. Express the solutions of two variable linear equations as ordered pairs
- C. Graph linear equations, identify the slope and  $y$ -intercept
- D. Find the equation of a line given information about it
- E. Interpret graphs and draw conclusions about from the graph
- F. Use linear equations of two variables and their graphs to model real world linear relationships