



# Sophia Learning

## STAT0050: Foundations of Statistics (2 semester credits)

### COURSE DESCRIPTION

The course teaches foundational statistics skills that will enable students to be successful in a college level Statistics course. Students will learn about fundamental concepts in statistics such as central tendency, variation, correlation, probability, and statistical analysis.

**COURSE EFFECTIVE DATES:** February 2019 - Present

**PREREQUISITES:** Lower-division baccalaureate/associate degree course – no prerequisites

**LENGTH OF COURSE:** This is a self-paced course. Students may use as much or as little time as needed to complete the course.

**ACE CREDIT® RECOMMENDATION:** In the lower-division baccalaureate/associate degree category, 2 semester hours in statistics or mathematics.

**GRADING:** This is a pass/fail course. Students are required to complete all 5 formative and 2 summative assessments with an overall course average of 70% or better.

### LEARNING OUTCOMES

Upon completion of the course, the student will be able to:

1. Evaluate statistical methods
2. Calculate probability, measures of central tendency, and measures of variation
3. Interpret descriptive and inferential statistics
4. Apply statistical concepts in context

### OUTLINE OF MAJOR CONTENT AREAS

- What is Statistics?
- Experiments

- Nominal, Ordinal, Interval, and Ratio Data
- Classifying Data
- Determining the Center of Data
- Graphing Data
- Normal Distribution
- Skewed Distributions
- Range
- Variation
- Correlation
- Correlation and Causation
- Probability
- Independent and Dependent Events
- Normal Distributions and Probability
- Standard Normal Distribution
- Calculating z-Scores
- Z-Scores and Probability
- Data from Multiple Samples
- Determining Likelihood of a Mean
- Determining Significance Levels
- Type I and Type II Errors
- Confidence Intervals

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