

COURSE OUTLINE

Mathematics 336 Skills for College Success in Statistics

Catalog Statement

MATH 336 is designed to complement MATH 136 in the development and practice of essential study techniques and course material for success in Statistics. Topics include integration of statistical software, life management skills, strategies for successful classroom experience, and critical thinking/problem solving strategies.

Total Lecture Units: 0.0

Total Laboratory Units: 1.0

Total Course Units: 1.0

Total Lecture Hours: 0.0

Total Laboratory Hours: 48.0

Total Laboratory Hours To Be Arranged: 0.0

Total Faculty Contact Hours: 48.0

Corequisite: MATH 136.

Note: This course is Pass/No Pass only

Course Entry Expectations

Prior to enrolling in the course, the student should be able to:

- use formulas to compute, up to and including logarithms;
- calculate permutations and combinations;
- understand summation notation;
- solve algebraic equations;
- graph functions in the Cartesian coordinate system;
- recognize and interpret the slope and intercept of a linear function;
- apply mathematical techniques to word problems.

Course Exit Standards

Upon successful completion of the required coursework, the student will be able to:

- describe and analyze realistic large data sets from disciplines including business, social science, psychology, life science, health science and education using graphs and statistics;
- analyze real world results, interpret the output of a technology-based statistical analysis and identify flaws in statistical reasoning;
- identify the standard methods of obtaining data and identify advantages and disadvantages of each;
- calculate probability using the normal distribution, the t distribution and the basic laws of probability;
- describe sampling distributions, distinguish them from population distributions and analyze the role played by the Central Limit Theorem ;
- compute confidence intervals using statistical software;
- perform hypothesis tests using statistical software;
- use critical thinking skills to better analyze, synthesize, and evaluate ideas and information;
- make use of life-skills that improve the likelihood of success in Statistics;
- apply knowledge of math community resources and college support services;
- apply academic success strategies.

Course Content

Total Faculty Contact Hours = 48.0

Mathematical Content (32 hours)

Data Analysis using descriptive statistics
Producing data
Probability and sampling distributions
Inferences using sample means, proportions, and standard deviations

Math Study Skills Content (16 hours)

Time management
Motivation for college success in mathematics
Critical thinking skills
Test taking techniques
Goal setting
Transferring / career exploration resources
College support resources
Math community resources

Methods of Instruction

The following methods of instruction may be used in the course:

- lecture/discussion;
- small group work/discussion;
- online presentation;
- guest speakers;
- statistical software and/or graphing calculator demonstrations and activities.

Out of Class Assignments

The following out of class assignments may be used in the course:

- reading and working exercises (e.g. working selected problems from textbook exercise sets);
- projects involving analysis of real-world data using statistical software;
- meeting with a counselor to discuss transfer goals.

Methods of Evaluation

The following methods of evaluation may be used in the course:

- worksheets reinforcing statistical techniques;
- quizzes;
- examinations.

Textbook(s)

Nolting, Paul, *Math Study Skills Workbook*. 5th ed. Mason: Cengage, 2016.
Print.

10th Grade Textbook Reading Level. ISBN 0-534-49573-7.

Student Learning Outcomes

Upon successful completion of the required coursework, the student will be able to:

- work successfully on assignments in statistics with fellow students both in and out of the classroom;
- demonstrate the ability to use descriptive and inferential statistics;
- incorporate strategic academic and life skills in planning and self-assessment of mathematics success in statistics.