Course Description

This rigorous full-year course engages students in the study of statistics. The course covers statistical concepts and includes interactive activities and projects that encourage higher-order thinking skills. Major topics of study include exploring one- and two-variable data, sampling, experimentation, probability, sampling distributions, and statistical inference. These topics are organized into three big ideas: variation and distribution, patterns and uncertainty, and data-based predictions, decisions, and conclusions.

Course Objectives

Throughout the course, you will meet the following goals:

- Construct graphical and numerical summaries of distributions.

- Describe and/or compare distributions that are given numerically or graphically.

- Calculate proportions and percentiles based upon a Normal distribution.

- Model and analyze bivariate data.

- Interpret calculations in the context of the problem.

- Identify and describe the various sampling techniques, including advantages and disadvantages.

- Identify and describe the various experimental designs, including advantages and disadvantages.

- Understand and apply probability rules.

- Describe the shape, center, and variability of the sampling distribution of the sample mean, sample proportion, difference in sample means, and e difference in sample proportions.

- Construct and interpret a confidence interval for one and two means and one and two proportions.

- Carry out a test of significance for one and two means, one and two proportions, and linear-regression tests for slope.

- Use technology to create data displays and carry out statistical calculations.

Student Expectations

This course requires the same level of commitment from you as a traditional classroom course would. Throughout the course, you are expected to spend approximately 5–7 hours per week online on the following activities:

- Interactive lessons that include a mixture of instructional videos and tasks

- Assignments in which you apply and extend learning in each lesson

- Assessments, including quizzes, tests, and cumulative exams

Communication

Your teacher will communicate with you regularly through discussions, email, chat, and system announcements. You will also communicate with classmates, either via online tools or face to face, as you collaborate on projects, ask and answer questions in your peer group, and develop your speaking and listening skills.

Grading Policy

You will be graded on the work you do online and the work you submit electronically to your teacher. The weighting for each category of graded activity is listed below.

- Assignments   20%
- Quiz   20%
- Unit Tests   30%
- Exams   20%
- Projects   10%

Scope and Sequence

When you log into Edgenuity, you can view the entire course map—an interactive scope and sequence of all topics you will study. The units of study are summarized below:

Unit 1: Data Analysis

Unit 2: The Normal Distribution

Unit 3: Simple Linear Regression

Unit 4: Sampling and Experimentation

Unit 5: Probability

Unit 6: Random Variables

Unit 7: Sampling Distributions

Unit 8: Estimating Populations with Confidence

Unit 9: Testing Claims about Proportions

Unit 10: Estimating Means with Confidence

Unit 11: Testing Claims about Means