

Statistics Course Syllabus
Tulahoma High School

What is Statistics?

1. This course is an introductory course to statistics. Many degree programs in college require a statistics class. This class will prepare you for success in the college course.
2. More specifically what: In this course, you will learn about designing studies, exploring different types of data, modeling data, calculating probabilities, making inferences, and justifying conclusions.

Semester 1

Introduction to Statistics
Graphing Distributions
Summarizing Distributions
Describing Bivariate Data
Probability
Research Design

Semester 2

Normal Distributions
Sampling Distributions
Estimation
Logics of Hypothesis Testing
Testing Means
Chi Square Distributions

TENNESSEE STATE STANDARDS

Statistics includes the following domains and clusters:

- Interpreting Categorical and Quantitative Data
 - o Understand, represent, and use univariate data.
 - o Understand, represent, and use bivariate data.
- Conditional Probability and the Rules of Probability
 - o Understand and apply basic concepts of probability.
 - o Use the rules of probability to compare probabilities of compound events in a uniform probability model.
- Using Probability to Make Decisions
 - o Understand and use discrete probability distributions.
 - o Understand the normal probability distribution.
- Making Inferences and Justifying Conclusions
 - o Know the characteristics of well-defined studies.
 - o Design and conduct a statistical experiment to study a problem, then interpret and communicate the outcomes.

- o Make inferences about population parameters based on a random sample from that population.
- o Understand and use confidence intervals.
- o Use distributions to make inferences about a data set.

The domain standards are interwoven throughout the content topics. For additional specific standards please visit the state of Tennessee website. (<https://www.tn.gov/education/article/mathematics-standards>)

The eight Standards for Mathematical Practice are an important component of the mathematics standards for each course. The Standards for Mathematical Practice describe the varieties of expertise, habits of minds, and productive dispositions that educators see to develop in all students.

- ❖ Make sense of problems and persevere in solving them.
- ❖ Reason abstractly and quantitatively.
- ❖ Construct viable arguments and critique the reasoning of others.
- ❖ Model with mathematics.
- ❖ Use appropriate tools strategically.
- ❖ Attend to precision.
- ❖ Look for and make use of structure.
- ❖ Look for and express regularity in repeated reasoning.

INSTRUCTIONAL MATERIALS ACCESS

Textbook: CK-12 Flexbook; Tennessee Intro to Statistics

Online Access: Required to have access both at home and school for this course. Google Sheets and Geogebra are some of the applications we use to learn content.

Schoology has all supplemental materials (exercises, assignments, and handouts) and contains progress reports and details about grades.

GRADE BREAKDOWN

20%	Tests
20%	Quizzes
10%	Assignments & Participation
50%	Projects

- a) Tests will be given every 1 to 2 weeks and will contain mathematical content. Dr. Terry will grade and return the test within 5 school days of the test date. The tests will remain at school for future use in class. Tests are usually assigned 100 points. Sometimes a test may include “bonus questions” which can take the student beyond the 100 points and store up for “extra credit.”

- b) Quizzes are given periodically and contain material from several objectives. The purpose is to provide corrective feedback for the student and the teacher. Dr. Terry uses them as an opportunity to re-teach where needed and students should use them as study material for unit tests. When a student misses class, the quiz is generally not required or counted.
- c) Assignments are given just about every day. Dr. Terry will provide some class time, but students are expected to allow 30 minutes a day to complete assignments. Dr. Terry is primarily concerned with mastery of the material and working at home reinforces learning. Students will have until the test to complete assignments (this includes absences). After each unit is completed, no late work will be accepted.
- d) Projects are an important part of developing different kinds of mathematical thinking. They may be a group assignment or individual. The project may require research from the Internet and/or library. These may involve written work, report, or classroom presentation.