



Course Overview

High School | Probability and Statistics - Last Updated on April 2, 2025

DESCRIPTION

K-12 Content Area | Mission & Philosophy Statement

- With confidence and perseverance, young people can tackle complex and novel mathematical challenges, becoming skilled problem solvers who take ownership over their learning process.
- Young people possess the ability to reason mathematically, make conjectures, solve problems and build understanding through effective dialogue and collaboration.
- Learners exhibit critical inquiry through the deliberate asking of questions and the integration of conceptual understanding, reasoning abilities, and procedural fluency.
- Strategically selecting materials, technology, and other resources support mathematical learning and aid in achieving mathematical goals.

Course Description

This course is designed for students who will be continuing their education after high school. It will focus on the concepts of descriptive statistics. These concepts include data collection and classification, frequency distributions; measures of central tendency, measures of variation, probability, probability distributions, normal distributions, and the standard normal distribution. Students will also be introduced to the concepts of inferential statistics through hypothesis testing, confidence intervals, and correlation and regression. Technology will be incorporated into each unit through the use of the TI-83/84 graphing calculator. Case studies will also be examined within each unit to pull together the concepts and apply them to real-life situations.

STANDARDS

National Common Core - High School - Statistics and Probability

ID.A ID.B ID.C ID.A.1 ID.A.2 ID.A.3 ID.A.4 ID.B.5 ID.B.6 ID.B.6a

ID.B.6b ID.B.6c ID.C.7 ID.C.8 ID.C.9 IC.A IC.B IC.A.1 IC.A.2 IC.B.3

IC.B.4 IC.B.5 IC.B.6 CP.A CP.B CP.A.1 CP.A.2 CP.A.3 CP.A.4 CP.A.5

CP.B.6 CP.B.7 CP.B.8 CP.B.9 MD.A MD.B MD.A.1 MD.A.2 MD.A.3

MD.A.4 MD.B.5 MD.B.6 MD.B.7 MD.B.5a MD.B.5b



Course Overview

High School | Probability and Statistics - Last Updated on April 2, 2025

COURSE OBJECTIVES

Specific objectives for this course are aligned to the National Common Core High School Standards for Statistics and Probability.

ASSESSMENT TYPES

The following assessment types will be used during the course:

- Formative Assessments
- Summative Assessments

SUGGESTED METHODS OF INSTRUCTION

Below is a list of suggested strategies for high-quality instruction in Mathematics:

- Instructional components outlined in the *Framework for Teaching by Charlotte Danielson*
- Teacher-Centered Instruction
- Inquiry-Based Learning
- Small Group Instruction
- Cooperative Learning
- Student-Centered/Constructivist Approach
- Project-Based Learning
- Flipped Classroom



Course Overview

High School | Probability and Statistics - Last Updated on April 2, 2025

RESOURCES

District Approved Program Resources	District Approved Supplemental Resources	District Approved Technology Resources
<p><i>Elementary Statistics: Picturing the World</i> (7th Edition). 2018 Ron Larson.</p> <p><i>Introductory Statistics 2nd Edition</i>: https://openstax.org/details/books/introductory-statistics-2e</p>	<ul style="list-style-type: none"> TI-Calculators 84Central Calculator Activities https://education.ti.com/en/84activitycentral/us/home Khanacademy https://www.khanacademy.org/math/statistics-probability Nearpod https://nearpod.com/ Desmos https://www.desmos.com/ Khanacademy https://www.khanacademy.org/math/algebra2 IXL Online Learning Platform https://www.ixl.com/math/probability-and-statistics Geogebra: Interactives https://www.geogebra.org/math/statistics-probability Teacher created materials 	<ul style="list-style-type: none"> TI84CE Graphing Calculators (with software programs)