



AP[®] Statistics

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Course Information The purpose of the AP course in statistics is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad skill categories:

1. Selecting Statistical Methods: Selecting methods for collecting and/or analyzing data for statistical inference.
2. Data Analysis: Describing patterns, trends, associations, and relationships in data.
3. Using Probability and Simulation: Exploring random phenomena.
4. Statistical Argumentation: Developing an explanation or justifying a conclusion using evidence from data, definitions, or statistical inference.

Important components of the course will include the use of technology, projects and laboratories, cooperative group problem-solving, and writing, as a part of concept-oriented instruction and assessment. For more information, visit <https://apcentral.collegeboard.org/pdf/ap-statistics-course-and-exam-description.pdf>

Technology Students will learn and understand the statistical capabilities of a graphing calculator and of the provided software. Students will be issued their own *TI-84 Plus graphing calculator*, for which they will be held financially responsible if lost or damaged. They will use the calculator in class, at home, and on the AP exam. It is highly recommended that students pay close attention to the functions of the calculator so that they may fully learn its features how to interpret its output.

Students will become proficient not only in the computational capabilities of technology, but, more importantly, they will demonstrate how to fully interpret and understand the output from different forms of output from these devices.

Primary Textbook Yates, Moore, and Starnes. *The Practice of Statistics*, 6th edition.

The textbook is an excellent resource, and students will be expected to read through each chapter thoroughly as we progress through the semester. Normally, students are expected to have each chapter read with notes taken on important concepts, main ideas, definitions and terms before the day that we will formally talk about the chapter in class.

Secondary Resources

BVD	Bock, David; Velleman, Paul; De Veaux, Richard. <i>Stats: Modeling the World, Third Edition</i> . Boston: Pearson Addison Wesley, 2004.
POD	Peck, Roxy; Olsen, Chris; Devore, Jay. <i>Introduction to Statistics & Data Analysis, Fourth Edition</i> . Boston: Brooks/Cole, 2012.
BLU	Bluman, Allan G. <i>Elementary Statistics: A Step by Step Approach, 7th edition</i> . Boston: McGraw Hill, 2007
OL	Ott, R. Lyman; Longnecker, Michael. <i>An Introduction to Statistical Methods and Data Analysis, Fifth Edition</i> . Pacific Grove, CA. Duxbury, 2001
ABS	Scheaffer, Richard L. <i>Activities Based Statistics, 2nd edition</i> . Key Curriculum Press, 2008
FR	Free Response Practice Questions from Released AP Exams
SP	Supplemental Resources

Materials: Each student should bring the following items to class daily:

- Three-ring binder
- Paper, Graph Paper, Pencil
- Textbook – The Practice of Statistics 6th edition
- Graphing calculator (A TI-84 Plus will be issued to you, but is recommended that you purchase your own.)
- A device that can access Canvas and AP Classroom

Course Content and Chapter Correlation

Unit 1: Exploring One-Variable Data

Chapter 1 Data Analysis

- 1.1 Analyzing Categorical Data
- 1.2 Displaying Quantitative Data with Graphs
- 1.3 Displaying Quantitative Data with Numbers

Chapter 2 Modeling Distributions of Quantitative Data

- 2.1 Describing Location in a Distribution
- 2.2 Density Curves and Normal Distributions

Unit 2: Exploring Two-Variable Data

Chapter 3 Exploring Two-Variable Quantitative Data

- 3.1 Scatterplots and Correlation
- 3.2 Least-Squares Regression
- 3.3 Transforming to Achieve Linearity

Unit 3: Collecting Data

Chapter 4 Collecting Data

- 4.1 Sampling and Surveys
- 4.2 Experiments
- 4.3 Using Studies Wisely

Unit 4: Probability, Random Variables, and Probability Distributions

Chapter 5 Probability

- 5.1 Randomness, Probability, and Simulation
- 5.2 Probability Rules
- 5.3 Conditional Probability and Independence

Chapter 6 Random Variables and Probability Distributions

- 6.1 Discrete and Continuous Random Variables
- 6.2 Transforming and Combining Random Variables
- 6.3 Binomial and Geometric Random Variables

Unit 5: Sampling Distributions

Chapter 7 Sampling Distributions

- 7.1 What is a sampling distribution?
- 7.2 Sample Proportions
- 7.3 Sample Means

Unit 6: Inference for Categorical Data: Proportions

Chapter 8 Estimating Proportions with Confidence

- 8.1 Confidence Intervals: The Basics
- 8.2 Estimating a Population Proportion
- 8.3 Estimating a Difference in Proportions

Chapter 9 Testing Claims About Proportions

- 9.1 Significance Tests: The Basics
- 9.2 Tests About a Population Proportion
- 9.3 Tests About a Difference in Proportions

Unit 7: Inference for Quantitative Data: Means

Chapter 10 Estimating Means with Confidence

- 10.1 Estimating a Population Mean
- 10.2 Estimating a Difference in Means

Chapter 11 Testing Claims About Means

- 11.1 Tests About a Population Mean
- 11.2 Tests About a Difference in Means

Unit 8: Inference for Categorical Data: Chi-Square

Unit 9: Inference for Quantitative Data: Slopes

Chapter 12 Inference for Distributions and Relationships

- 12.1 Chi-Square Tests for Goodness of Fit
- 12.2 Inference for Two-Way Tables
- 12.3 Inference for Slope

Grading Procedures

Major Assessments 45%
Minor Assessments 20%
Daily Assignments 15%
Final Assessment 20%

This course includes a cumulative final exam at the end of each semester.

Students and Parents are responsible for monitoring progress and grades on Infinite Campus.

Homework will be checked randomly and graded for completion. Homework must be done completely and legibly, on loose-leaf paper.

In the event of an anticipated absence or NI, it is the student's responsibility to ask for notes or make-up work in advance so he/she does not fall behind.

Tests and Quizzes will resemble the AP Exam and will include multiple choice and free response questions. They will be graded in the same manner as the AP Exam and will be timed accordingly.

This course will have a full-length cumulative mock College Board exam.

Expectation of Accountability -Advanced Placement Statistics is a difficult course for several reasons and requires a great deal of studying outside of class. This course moves extremely fast. We will cover 900+ pages of material before spring break. It is essential that students complete all assignments on time and complete assigned readings to be successful. Students must study and practice regularly. I work hard to provide resources and opportunities for students to receive additional help and remediation to ensure content mastery. While I can strongly encourage students to take advantage of these opportunities, it is the student's responsibility to take full advantage of them.

Tutoring Availability – Tuesday 7:15-7:45 and Wednesday 3:00-3:30.

Bathroom Policy - Students are expected to use the restroom in between classes. Passes will not be issued during instructional time. Students are expected to be in the classroom where learning takes place.

Chrome book -All students are issued a district-provided chrome book for instructional purposes, student engagement, and student learning. Chrome book use is at the direction and discretion of the classroom teacher.

AP EXAM! Students who are enrolled in the course are expected to take the AP Exam on May 8, 2025.

AP Exam timeline:

- ✓ 8.25.24– Deadline for students to electronically join all AP classes on College Board website (APcentral.collegeboard.org). *Help line for students and parents 1-888-225-5427
- ✓ 10.25.24 – Deadline for students to register for AP exams on the College Board website.

AP Fees

AP Exams have a fee. Fee amount and due date will be announced at a later date.

Exams ordered after ordering deadline:

- \$40 fee per exam **regardless of free and reduced lunch/STEM status.**

Cancel or fail to take AP exam after ordering deadline:

- \$40 fee per exam **regardless of free and reduced lunch/STEM status.**

Canvas

To encourage blended learning, online assignments will be posted weekly through Canvas. Students should be familiar with how to navigate the online platform, communicate with their teacher, and submit assignments on time. If there are technology limitations, please notify the teacher. Canvas can be accessed through students SSO Portal login.

Advanced Placement Statistics Syllabus

Murkerson 2024-2025

I understand that I, as an advanced placement student, am responsible for registering online for my exams. Failure to do so will mean that I am unable to participate in AP testing for this course during the current school year.

The school is responsible for meeting College Board deadlines regarding testing registration. Once I have chosen to test/not test and submitted my registration through the College Board website, I am responsible for any fees incurred should I later change my decision.

I have read the syllabus for Advanced Placement Statistics and I understand its contents:

Parent/Guardian (print name)

Parent/Guardian signature

Date

Parent/Guardian e-mail

Cell Phone #

Alternate Daytime Phone #

Student (print name)

Class Period

Student signature

Date

Student e-mail