

AP Statistics (New and Experienced)
Cherry Creek APSI Online
Denver, CO

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Course Description

This 5-day, online course will help teachers gain a deeper understanding of the AP Statistics Course Framework. We will focus on effective strategies for helping students master the essential concepts and skills of AP Statistics. We'll examine resources and supports for classroom instruction, assessment, and AP exam preparation—including those available on AP Classroom. In addition, we will discuss issues related to planning and organizing the course, such as student selection, sequencing and pacing, the AP Audit, technology, and projects. Each morning and afternoon will include a mixture of synchronous (about 60%) and asynchronous (about 40%) learning. I will be available in our virtual classroom throughout the asynchronous work.

Course Objectives

1. Deepen understanding of statistical concepts and methods, as well as the 4 course skills, described in the AP Statistics Course and Exam Description (CED).
2. Refine course planning to meet students' needs given available resources and supports.
3. Examine effective instructional strategies for AP Statistics.
4. Explore how AP Classroom can be used to assess and provide feedback about student learning, and to aid you in designing instruction.
5. Expand your professional network as part of the AP Community.

Preparing for the Course

To get the most out of our time together, please:

1. Have a graphing calculator (TI-83/84 preferred) and a laptop/desktop computer available for use throughout the week. Texas Instruments is offering temporary free access to the TI-84 Plus CE emulator.
2. Find out as much as you can about: (a) The students who will be taking your course. (b) Materials that have already been selected for your course: textbook, student and teacher resources, calculators, software. I will send you a Google Form to collect information the week before the institute.
*Please contact me via email (StarnesStats@gmail.com) for information on choosing a textbook, software, and other resources for teaching AP Statistics any time prior to the institute!
3. Complete the AP Course Audit for 2020-21. Go to <https://apcentral.collegeboard.org/courses/ap-course-audit> for more information.
4. Download an electronic copy of the AP Statistics Course and Exam Description (CED) from <https://apcentral.collegeboard.org/courses/ap-statistics>.
5. If you have taught the course before, please identify a helpful resource you might share with your colleagues in our class Google Drive folder. Alternatively, think about a technology tip you could share--perhaps from experience with virtual instruction!

Daily Agenda

Morning session	8:30 a.m. – 12:00 p.m.
Lunch	12:00 p.m. – 12:30 p.m.
Afternoon session	12:30 p.m. – 3:00 p.m.

Day 1

Morning session

- ❖ Introductions, Welcome, Goals for the Week
- ❖ What's Going on in This Graph? *New York Times* resource
- ❖ Overview of AP Statistics: an opening activity
- ❖ Dive into the AP Statistics Course and Exam Description (CED)
- ❖ AP Classroom tutorial
- ❖ Preview of Unit 1: Exploring One-Variable Data
- ❖ Against All Odds: Inside Statistics video resource

Afternoon session

- ❖ Breakout groups to review asynchronous work
- ❖ Discuss CED alignment to AP exam questions
- ❖ AP Classroom: Progress Checks and Topic Questions
- ❖ Deep dive into Unit 1: Exploring One-Variable Data
- ❖ Course planning: Review textbook print and online resources
- ❖ Preview of Unit 2: Exploring Two-Variable Data

Day 2

Morning session

- ❖ CED AP Exam Information
- ❖ Breakout groups to review asynchronous work
- ❖ Deep dive into Unit 2: Exploring Two-Variable Data
- ❖ Course planning: Sequencing and pacing
- ❖ Preview of Unit 3: Collecting Data
- ❖ AP Classroom: Question Bank
- ❖ Ask Good Questions blog resource

Afternoon session

- ❖ Breakout groups to review asynchronous work
- ❖ Deep dive into Unit 3: Collecting Data
- ❖ Course planning: Laying out the year (backwards planning)
- ❖ Preview of Unit 4: Probability, Random Variables, and Probability Distributions
- ❖ AP Classroom: Using the Progress Dashboard
- ❖ CED Instructional Resources and lesson planning

Day 3

Morning session

- ❖ Course planning: classwork vs. homework
- ❖ Breakout groups to review asynchronous work
- ❖ Deep dive into Unit 4: Probability, Random Variables, and Probability Distributions
- ❖ The AP Statistics Teacher Community
- ❖ Preview of Unit 5: Sampling Distributions
- ❖ CED Instructional Resources and lesson planning
- ❖ Stats Medic resources

Afternoon session

- ❖ Course planning: assessment and grading
- ❖ Breakout groups to review asynchronous work
- ❖ Deep dive into Unit 5: Sampling Distributions
- ❖ AP Central resources
- ❖ Preview of Unit 6: Inference about Categorical Data: Proportions
- ❖ CED Developing Course Skills

Day 4

Morning session

- ❖ CED Equity & Access
- ❖ Breakout groups to review asynchronous work
- ❖ Deep dive into Unit 6: Inference about Categorical Data: Proportions
- ❖ Khan Academy AP Statistics resources
- ❖ Preview of Unit 7: Inference about Quantitative Data: Means

Afternoon session

- ❖ Course planning: AP exam preparation
- ❖ Breakout groups to review asynchronous work
- ❖ Deep dive into Unit 7: Inference about Quantitative Data: Means
- ❖ FRAPPY! Instructional Strategy
- ❖ Preview of Unit 8: Inference about Categorical Data: Chi square
- ❖ AP Classroom best practices
- ❖ Tour of class Google Drive folder

Day 5

Morning session

- ❖ Course planning: Projects
- ❖ Breakout groups to review asynchronous work
- ❖ Deep dive into Unit 8: Inference about Categorical Data: Chi square
- ❖ Taming the Investigative Task
- ❖ Preview of Unit 9: Inference about Quantitative Data: Slope
- ❖ CED Exam Information: Formula Sheet and Tables

Afternoon session

- ❖ Breakout groups to review asynchronous work
- ❖ Deep dive into Unit 9: Inference about Quantitative Data: Slope
- ❖ Share a resource!
- ❖ Wrap-up, evaluations, and farewell