AP® STATISTICS

About the Advanced Placement Program® (AP®)

The Advanced Placement Program® has enabled millions of students to take college-level courses and earn college credit, advanced placement, or both, while still in high school. AP Exams are given each year in May. Students who earn a qualifying score on an AP Exam are typically eligible to receive college credit and/or placement into advanced courses in college. Every aspect of AP course and exam development is the result of collaboration between AP teachers and college faculty. They work together to develop AP courses and exams, set scoring standards, and score the exams. College faculty review every AP teacher's course syllabus.

AP Statistics Course Overview

The AP Statistics course is equivalent to a one-semester, introductory, non-calculus-based college course in statistics. The course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. There are four themes in the AP Statistics course: exploring data, sampling and experimentation, anticipating patterns, and statistical inference. Students use technology, investigations, problem solving, and writing as they build conceptual understanding.

PREREQUISITE

Students must have taken second-year algebra before enrolling in AP Statistics.

Use of Graphing Calculators and Computers

Professional mathematics organizations have strongly endorsed the use of calculators in mathematics instruction and testing. The use of a graphing calculator in AP Statistics is considered an integral part of the course. In addition, schools should make every effort to provide students and teachers easy access to computers to facilitate the teaching and learning of statistics.

Goals of AP Statistics

Students who are enrolled in AP Statistics are expected to

- Describe patterns and departures from patterns;
- Plan and conduct a study;
- Explore random phenomena using probability and simulation; and
- Estimate population parameters and test hypotheses.

Topic Outline for AP Statistics

I. Exploring Data

- Constructing and interpreting graphical displays of distributions of univariate data
- Summarizing and comparing distributions of univariate data
- Exploring bivariate and categorical data

II. Sampling and Experimentation

- Planning and conducting surveys and experiments using appropriate methods of data collection
- Generalizability of results and types of conclusions that can be drawn from observational studies, experiments, and surveys

III. Anticipating Patterns

- Exploring random phenomena using probability and simulation
- Combining independent random variables
- The normal distribution
- Sampling distributions

IV. Statistical Inference

- Estimating population parameters and testing hypotheses
- Tests of significance

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Questions to Consider

(1) What college major do I plan to pursue?

If you plan to pursue a degree in a STEM (Science, Technology, Engineering or Mathematics), you will be expected to take calculus in college. **If you select an English, history, fine arts, foreign language, or social science major, then you are more likely to need a statistics course.** Business majors will probably need to take both calculus and statistics. You want to choose a course that sets you up well for your college math requirements.

(2) What math course will I take in college?

In college, most students are required to take at least one mathematics course. About half of schools require a calculus course, and the other half require a statistics course.

(3) What credit or placement will I get for my AP math class?

Each college/university has a policy about credit and/or placement awarded for specific AP exams. AP Calculus has been around longer, so more schools give credit and/or placement for it than for AP Statistics. At most schools that give credit, earning a "passing" score on the AP Statistics or AP Calculus exams results in one semester of college credit. The key might be which math course you'll need in your major. The link below will give more information on credit/placement.

https://apstudent.collegeboard.org/creditandplacement

See reverse side for more information.

(4) What is the difference between AP Calculus and AP Statistics?

AP Calculus

- Graphical, numerical, and algebraic
- Builds on precalculus concepts
- Computational proficiency helps
- Emphasizes techniques, applications
- TI-83/84/89 vital

AP Calculus AB

In order to take AP calculus AB students should have had an A or B in Precalculus Honors. The course covers a 1 semester college calculus class typically called calculus I. The course covers 7 units of curriculum and will conclude with the AP exam. Depending upon the college, a good AP exam score could translate to up to 4 college credits.

AP Calculus BC

In order to take AP calculus BC students should have had an A in Precalculus Honors. The course covers 1.5-2 semesters' college calculus classes typically called Calculus I and calculus II. The course covers 12 units of curriculum and will conclude with the AP exam. The AP exam does have a calculus AB sub-score. Depending upon the college, a good AP exam score could translate to up to 8 college credits.

AP Statistics

- Collecting and analyzing data
- Computation de-emphasized
- Focus on communication and interpretation
- Writing critical
- Projects
- Computer & TI-83/84/89 ability.
- Suggestion of C+ or higher in PreCalculus or PreCalculus Honors.
- Strong study habits.
- Application of principles and definitions.
- Structure and grammar are key with communication.
- Reading and interpretation of results.
- The course is college-level.
- Students are encouraged to take the AP Exam