

## What the Course Covers

### The Four Major Components of AP Stat

#### Experimental Design

Students design appropriate experiments in order to draw conclusions that can be generalized to the population of interest. Students will also interpret studies and experiments to determine whether the conclusions from the studies warrant consideration.

#### Exploring Data

Students collect and examine data and display the patterns that emerge. Data from students in class as well as real world data sets are gathered and used to illustrate concepts.

#### Producing Models Using Probability and Simulation

Students learn to anticipate patterns and produce models for prediction. Students use simulations to model situations that are not practical to replicate using other methods.

#### Statistical Inference

Students learn what can be generalized about the population. Students also learn how to investigate research questions, design a study, and interpret the results.

- AP Statistics is one math course where you will never ask, "When will we ever use this?" Problems are almost always based on real-world studies in a variety of fields.
- AP Statistics is a challenging course that will teach you how to think critically about claims made in the media. This is even more important in this age of information.
- There is a lot of reading and writing involved. In fact, if you think math is all formulas, equations and calculations, you will soon find that this course is not really a math course. It's a course in reading, analyzing, thinking, and writing clearly.

## Comparison of High School AP Statistics to College Statistics

	High School	College
Time	180 hours	42 hours
Cost	Free	Pay for course \$\$\$\$\$
Book	Free	Pay for book \$\$\$\$
Class Size	Approx. 20-25	Could be many more
Help	Any after school	During posted office hours
Credits	High school and possibly college credit hours	College credit only
Benefits	You might fall in love with Statistics and decide to major or minor in it. You might find out how much easier your biology, science, psychology or pre-med classes are because you understand the statistics	You are probably taking Statistics when it is too late to change your major

### AP Calculus or AP Statistics

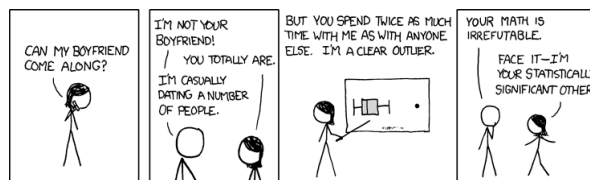
#### AP Calculus

- Graphical, numerical, and algebraic
- Builds on precalculus concepts
- Computational proficiency required
- Emphasis on techniques and applications

#### AP Statistics

- Collecting and analyzing data
- Computation de-emphasized
- Focus on communication and interpretation
- Writing critical
- TI - Nspire greatly used

If you plan to pursue a degree in mathematics, physics, or chemistry, you will be expected to take calculus and Statistics in college. If you select a major in English, history, fine arts, foreign language, or social science, then you are more likely to need just a statistics course.



Tom C Clark High School

# AP Statistics

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# What is AP Statistics?

Statistics is the science of collecting, analyzing, and drawing conclusions from data. Statistics is one of the most practical courses (not just math courses) that you will ever take. Every day in the newspaper there are many articles describing statistical studies, including surveys, political polls, medical research and other experiments.

Statistics is also one of the most widely applied courses you will ever take. Looking at the list of majors that require Statistics on the back of this brochure, it is obvious that it is used in a variety of disciplines. Current students will tell you that taking AP Statistics has already helped them in their Psychology and Biology courses.

AP Statistics is a college-level introductory statistics class taught in high school. Since it is designated AP, the grade in the course is weighted for GPA calculations.

## AP Stats FAQ

### Why should I take it?

Statistics is the most widely applicable branch of mathematics. It is used by more people than any other kind of math.

### How hard is AP Stats?

It's a college course, so the expectations are high. You will need to think hard about the concepts. You'll write – a lot. You won't get a good grade just for showing up. You must be a self-motivated scholar. The students who aren't . . . usually end up dropping the class.

### Do you have to be a top rate mathematician?

No. The course does not depend heavily on abstract mathematical concepts. The TI-Nspire graphing calculators will help us with much of the numeric drudgery inherent in statistics.

### Can I take Stats in college?

Yes. Statistics is required for many majors, and strongly recommended for others.

### Why take it in high school?

In high school, it's a full-year course, rather than one semester in college, so we can go at a more reasonable pace. We have time for activities and more discussion. AP Statistics counts as a math credit toward high school graduation.

### Would it be my only math course next year?

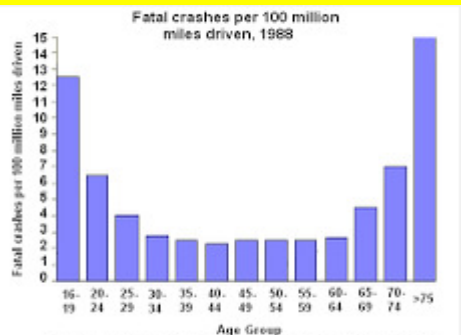
It could be. Many students also enroll in a PreCalc or Calculus course and find the combination very doable. In any case, stats is not really a "math" course – it's a whole different animal.

### Who can sign up?

Minimum prerequisite is Algebra II.

## Careers in Statistics

- Accounting
- Aerospace Engineering
- Animal Science
- Anthropology
- Biology
- Business Management
- Civil Engineering
- Economics
- Finance
- Government
- Journalism
- Law
- Marketing
- Mechanical Engineering
- Medicine
- Nursing
- Nutritional Science
- Political Science
- Psychology
- Sociology
- Teaching
- Veterinary Science



Graph is based on data from this study: Williams, Allan F., Ph.D., and Oliver Carston, Ph.D., "Driver Age and Crash Involvement," *Am J Public Health* 1989; 79: 326-327.