

## Secondary Mathematics AP Statistics

*Prerequisite: Mastery of Algebra II and/or appropriate Compass Score*

### **Course Description**

A course in AP Statistics consists of a full academic year of work in statistics and related topics comparable to courses in colleges and universities. The *Advanced Placement Course Description for Statistics* for the current school year should be consulted to provide the teacher with a guide to the topics and concepts that should be included in the high school statistics course. This publication is updated by the College Board and provides a descriptive outline of the course, detailing its content and the kinds of skills students are expected to demonstrate in the corresponding introductory college-level course (see the abbreviated outline below). It also provides a description of the Advanced Placement examination, sample multiple-choice questions with an answer key, and sample free-response questions. The *Advanced Placement Course Description for Statistics* should be the guide, and the teacher is responsible for expanding the course to include applications and enrichment. The *Advanced Placement Teacher's Guide in Statistics* is another publication containing syllabi developed by high school teachers currently teaching the AP course and by college faculty who teach the equivalent course at their institutions. It also contains lesson plans, innovative teaching tips, and lists of recommended teaching resources.

Copies of the *Advanced Placement Course Description for Statistics* and the *Advanced Placement Teacher's Guide in Statistics* for the current year may be obtained by writing to:

College Board Publications  
Dept. CMC0400 A B C D  
Two College Way  
Forrester Center, WV 25438

Materials may be purchased online at [www.collegeboard.com](http://www.collegeboard.com) in the College Board Online Store. Additional information regarding the course and ancillary materials may be reviewed at <http://apcentral.collegeboard.com>.

Below is an abbreviated version of the course outline from the College Board AP Statistics website.

**I. Exploring Data: Describing patterns and departures from patterns.**

- A. Constructing and interpreting graphical displays of distributions of univariate data (dotplot, stemplot, histogram, cumulative frequency plot)
- B. Summarizing distributions of univariate data
- C. Comparing distributions of univariate data (dotplots, back-to-back stemplots, parallel boxplots)
- D. Exploring bivariate data
- E. Exploring categorical data

**II. Sampling and Experimentation: Planning and conducting a study.**

- A. Overview of methods of data collection
- B. Planning and conducting surveys
- C. Planning and conducting experiments
- D. 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.**

- A. Probability
- B. Combining independent random variables
- C. The normal distribution
- D. Sampling distributions

**IV. Statistical Inference: Estimating population parameters and testing hypotheses.**

- A. Estimation (point estimators and confidence intervals)
- B. Tests of significance