

AP Statistics Course Expectations

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Office Hours: M, W, Th 6:30 - 7:20am; T, Th 2:20 - 3:20; by appt.

Welcome to AP Statistics! More than 80% of all college students take Statistics as a requirement towards their major field of study. Students who successfully complete the course and exam may receive advanced placement and obtain up to 5 math credits for a one-semester college statistics course. It is expected that students will take the AP Statistics Exam in **May 2020**. In this course, students develop strategies for collecting, organizing, analyzing, and drawing conclusions from data. Students design, administer, and tabulate results from surveys and experiments. Probability and simulations aid students in constructing models for chance behavior. Sampling distributions provide the logical structure for confidence intervals and hypothesis tests. Students use a **TI-83/84/89 graphing calculator**, Fathom and Minitab statistical software, and Web-based java applets to investigate statistical concepts. To develop effective statistical communication skills, students are required to prepare frequent written and oral analyses of real data.

What is Statistics about? Statistics is the discipline and science of *making sense out of variation*. Anything that can be measured will vary from case to case. A good statistician is searching for answers to the following questions:

What exactly do we want to measure?

What is the best way to measure it? How do we get good information?

How do our measurements vary and by how much?

What can we conclude based on what we know?

COURSE GOALS: In AP Statistics, students are expected to learn

Skills

- To produce convincing oral and written statistical arguments, using appropriate terminology, in a variety of applied settings.
- When and how to use technology to aid them in solving statistical problems

Knowledge

- Essential techniques for producing data (surveys, experiments, observational studies), analyzing data (graphical & numerical summaries), modeling data (probability, random variables, sampling distributions), and drawing conclusions from data (inference procedures - confidence intervals and significance tests)

Habits of mind

- To become critical consumers of published statistical results by heightening their awareness of ways in which statistics can be improperly used to mislead, confuse, or distort the truth.

This course has four major topics as outlined by the College Board and are carefully followed.

1. Exploring data: Describing patterns and departures from patterns (one and two variable data analysis, regression, and data display)
2. Sampling and Experimentation: Planning and conducting a study
3. Anticipating Patterns: Exploring random phenomena using probability and simulation
4. Statistical inference: Estimating population parameters and testing hypothesis

A full topic outline can be found on AP Central and my Power School site.

Style:

Students will be expected to independently develop a grasp of the concepts presented in the explorations. While the activities of this course tend to suggest that the ideas are simple, just the opposite is true. It is easy to be lulled into feeling comfortable about material because you have completed an assignment. In fact, only deep conceptual thinking will pull together the essential ideas. The calculations involved in this course are very basic. Technology will be used to eliminate most of the drudgery of computation. However, numbers without context are meaningless. Homework, tests, and projects will depend on well-written, concise prose written with a sense of the audience. No technical background is required. However, due the exploratory style of this course, students should make sure that they request help with whenever they feel they need it.

Supplies Materials needed for this class:

1. Textbook: (Print name in ink inside front cover) We will use *The Practice of Statistics* 4th ed. By Daniel Yates, David Moore, and Darren Starnes. (ISBN: 0-7167-4773-1) The book can be left at home. I have a pdf of the textbook on Power School for you to download.
2. Some sort of notebook for notes and something to write with.
3. Your laptop
4. TI 83+, 84, 84+ or 89 Graphing Calculator (each student is to have their own)

Classroom Procedures and Rules

All students deserve to learn in an environment where they feel comfortable and which is free from disruptions. I expect all students to follow all STEM policies outlined in their student handbook. Furthermore, students should adhere to the following guidelines:

1. Get to class on time. Be **in your seat** when class starts with homework and other necessary materials out
2. Be prepared to participate
3. Be respectful to everyone
4. Get help when it is needed. Don't wait until you are behind. Ask NOW
5. NO cell phones and/or other unapproved electronic devices during lessons. I will confiscate them until the end of the day if I see or hear them. Repetitive offenses will require involvement of the parent(s)/guardian(s) and/or principal.

First offense will be a verbal warning. Continued failure to follow the basic class rules may result in a grade penalty, removal from the classroom, assigned detention, student/teacher conference and parent/guardian contact, and/or referral to the principal.

REQUIREMENTS

Homework: Homework is assigned daily and is to be kept separate from your notes. Before beginning your homework, READ the textbook and your notes thoroughly. Also, take advantage of immediate answers to the odd homework questions. You should work all of the examples shown in class and in the book until you understand them. There will be two kinds of homework: recommended homework and turn-in homework.

- **Recommended Homework:** The recommended homework will not be collected (or checked) but may show up on assessments. You may do as much or as little of the recommended homework as you feel necessary to master the material.
- **Turn-in Homework:** The turn-in homework is due *the next date in class unless otherwise noted*. Late homework will not be accepted. At the top of each turn-in assignment you should put *page and problem #'s*. Homework is graded based on completeness.

Projects, Special Problems, and Free Response AP Problems: This course lends itself to some interesting and fun, real world projects. Students will collect and interpret data using the tools/skills learned in this course. We will work on FRAPPY's (Free Response AP Practice Yeah!) to help students learn how to evaluate and grade AP responses, AP style.

Assessments:

- **Quizzes:** Students generally will take one or two quizzes per chapter.
- **Tests:** There will at least one major test for each chapter/unit. They will be in AP Exam-type format with multiple choice and free response type items. You will be allowed to retake one test per quarter provided you have turned in all assignments for that unit.
- **Finals:** There will be a final exam at the end of the first semester. Students will take the cumulative final for this class right after the AP Statistics Exam. Then students work on/complete their final project which connects the four major themes of the course as well as using technology.

Absence

When you are excused absent, you have the same number of days gone to make up the assignments (i.e. if you were absent two days, you have two days to make up the work) and turn it in to me. Assignments and handouts can be found on Power School. Previously assigned homework will be due the day the student returns to class. It is your responsibility to turn in all homework timely.

If you are absent on the day of a test or quiz, be prepared to take it during class the day you return. **If you are absent on a review day, you will take the test on the regularly assigned test day.**

Grading Scale:

90 -	A	78 - 79.9	C+
88 - 89.9	B+	73 - 77.9	C
83 - 87.9	B	70 - 72.9	C-
80 - 82.9	B-	- 69.9	NC

The semester grade is cumulative between the two quarters. I do not take the average grade of the individual quarters. Grades will be calculated as follows:

15%: Homework/class participation

65%: Tests, quizzes, projects

20%: Semester final

Grades are updated often. Please check Skyward. If you find an error, you have two weeks to see me to fix it. Otherwise grades are locked.

Academic Honesty

The STEM academic honesty policy will be enforced. Student will frequently work together in class, and I encourage students to work together outside of class as well. However, it is the responsibility of each student to understand the material and present their own work, not the work of another student. Copying of an assignment will result in no credit for the assignment, for both student copying the assignment and for the student allowing the copying to take place.

