

TEXT BOOK

The Practice of Statistics - Updated Sixth Edition. Daren Starnes and Josh Tabor.
Bedford, Freeman, and Worth Publishers. 2019

EXTRA HELP

1. **SAP 1:52-2:25pm Only Mondays and Thursdays**
4. Homework Club
Monday and Wednesday 6:50am-7:20am

MATERIALS NEEDED

Textbook, 3-ring binder, Pencils, TI-84 calculator, Laptop

EVALUATION

- 50% Level Three Grades (Tests and Projects)**
30% Level Two Grades (Quizzes, Ted Talk Reports, Projects)
20% Level One Grades (Do Nows, Exit tickets, Class Assignments, Homework)

Course Description: AP Statistics is the high school equivalent of a one semester, introductory college statistics course. 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 phenomena. Sampling distributions provide the logical structure for confidence intervals and hypothesis tests. Students will use a TI-84 calculator, Fathom 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 through homework and project analysis.

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, simulations), 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.

Format: This class is geared toward the Common Core State Standards, and thus, the students will be actively learning through the Standards for Mathematical Practice:

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct arguments and critique reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

Students will work individually and in groups throughout each class, and we will engage in discussion about the mathematical topics we are learning.

- **Expectations:** During each class new skills and concepts will be taught which are dependent upon lessons from the previous day. It is expected that students will be able to digest each day's material, go home and practice these skills, and then come in the next day ready to move on to the next day's lesson.
- **Homework Grading:** Students are expected to complete homework online the night before each test or quiz and it is due at the moment a student starts their test or quiz.. You must earn at least an 80% on your homework to receive full credit. NO LATE HOMEWORK WILL BE ACCEPTED.
- **Attendance:** If you are absent it is YOUR responsibility to get the missing work. Students should either check google classroom or go to the absent folder. Arrangements for making up missed tests/quizzes need to be made with me the first day back after an absence. I will NOT chase you down for missing work.
- **Academic Integrity:** Scholastic Dishonesty, any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, and/or the submission for credit of any work or materials that are attributable in whole or in part to another person. If any of the above mentioned actions occurs, there will be an investigation by the academy administrator and appropriate disciplinary action will be taken.

The AP Exam (AP® from www.apcentral.collegeboard.com)

AP Statistics Test Date: Thursday, May __th, 2023, 12 noon – 3:30 pm

In Section I of the exam, students are given 90 minutes to answer 40 multiple-choice questions on a wide variety of topics. In Section II, they must answer several free-response questions; each exam contains six free response questions – 5 designed to be answered in about 10-12 minutes each, and one longer investigative task for which 25-30 minutes is allotted.

Course Outline

I. Exploring Data:

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

II. Sampling and Experimentation:

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

III. Anticipating Patterns:

- Probability
- Combining independent random variables
- The normal distribution
- Sampling distributions

IV. Statistical Inference:

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