

A.P. Statistics

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Congratulations! You've made it to A.P. Statistics. This sheet will help to explain the course and what is expected of you. Be sure to ask questions if there is anything you do not understand.

COURSE DESCRIPTION

This class is a cooperative effort. Both myself, as teacher, and you, as student, have the responsibility to put forth our best efforts daily. I will prepare myself each day to guide you in your learning, helping you become an independent learner. As the student, you are expected to enter the classroom ready to learn. This means attending class daily on time and with all necessary materials. You are expected to act appropriately and treat others with respect to help create an optimal learning environment for everyone. This includes listening quietly while one of your classmates or I speak to the group. You are expected to participate in class and activities, to listen, to work cooperatively in groups, and to work on math assignments during class time.

This course is the equivalent of an introductory college course in statistics. Students will have the opportunity to earn college credit by taking the AP exam in May. The goal is for students to improve their ability to make critical decisions based on real-world data and to consider the consequences of those decisions.

WHAT ARE WE GOING TO DO IN THIS CLASS?

<u>Topics to be covered</u>	<u>Entry Level Skills</u> (a.k.a. "You should already know this.")
Exploring Data <ul style="list-style-type: none">• Constructing and interpreting graphical displays of univariate data• Summarizing distributions of univariate data• Comparing distributions of univariate data• Exploring bivariate data• Exploring categorical data Sampling and experimentation <ul style="list-style-type: none">• Methods of data collection• Planning and conducting surveys• Planning and conducting experiments• Generalizability of results Anticipating Patterns <ul style="list-style-type: none">• Probability• Combining independent random variables• Normal distribution• Sampling distribution Statistical Inference <ul style="list-style-type: none">• Estimation• Tests of Significance	Background <ul style="list-style-type: none">• Dotplots• Stemplots• Histograms• Measures of center - mean and median• Basic Probability Expertise on TI-83+, TI 84+ or TI-89

SUPPLIES

Text - The Practice of Statistics (5th edition), by Starnes, Tabor, Yates, and Moore, W. H. Freeman & Co., 2014.

A calculator - You will need to own or have access to a graphing calculator. I recommend a TI-84+.

Binder with paper/notebook (with clean paper - OK, not a big issue right now, but in about 3 months some of you will be trying to cram notes onto the back cover or in unused margins, etc.) - Keep your notes neat and organized. They should be kept separate from your homework.

A pencil (with an eraser - because we all make mistakes).

ALIGNMENT TO THE IOWA CORE CURRICULUM

Interpreting Categorical and Quantitative Data

- Summarize, represent, and interpret data on a single count or measurement variable
- Summarize, represent, and interpret data on two categorical and quantitative variables
- Interpret linear models

Making Inferences and Justifying Conclusions

- Understand and evaluate random processes underlying statistical experiments
- Make inferences and justify conclusions from sample surveys, experiments and observational studies

Conditional Probability and the Rules of Probability

- Understand independence and conditional probability and use them to interpret data
- Use the rules of probability to compute probabilities of compound events in a uniform probability model

Using Probability to Make Decisions

- Calculate expected values and use them to solve problems
- Use probability to evaluate outcomes of decisions

INSTRUCTIONAL STRATEGIES

Instructional strategies that will be used in this course, but are not limited to are: direct instruction, active participation, graphic organizers, presentation, cooperative learning, advanced organizers, probing questions, questioning strategies, student projects, technology, note taking, modeling.

ASSESSMENTS

Summative - These will be unit tests. Tests will always be announced in advance.

Quizzes - These may be announced or unannounced. We have anywhere between one and three quizzes per chapter.

Formative - I will use white boards, discussions, and written assessments that are ungraded to assess student knowledge throughout the units.

Self - Homework assignments are graded but are also a way for students to check their own knowledge. Students are expected to check their own answers and we will have time in class to go over questions.

GRADING

Your grade will be based on the following:

Tests - Tests will always be announced in advance. They will be worth 60% of your grade. Take the tests seriously and do a good job the first time. Retake tests will be available. Before retaking a test you will be required to meet with me to go through your test. You will also be required to hand in an additional review assignment. Your final score will be calculated by taking $\frac{2}{3}$ of your retake score and adding $\frac{1}{3}$ of your original score.

Quizzes - These may be announced or unannounced. We have anywhere between 1 and 3 quizzes per chapter, each worth 20% of your grade. There will NOT be any retakes on quizzes.

Homework - Most homework assignments will be collected at the beginning of class on the day of the chapter test. Homework will be worth 10% of your grade. Other assignments will be collected at different times. Due dates for these will be given at the time the assignment is made.

AP Problems - These problems will be worth 10% of your grade.

Grading Scale:

93.0 - 100%	A	83.0 - 86.99	B	73.0 - 76.99	C	63.0 - 66.99	D
90.0 - 92.99	A-	80.0 - 82.99	B-	70.0 - 62.99	C-	60.0 - 62.99	D-
87.0 - 89.99	B+	77.0 - 79.99	C+	67.0 - 69.99	D+	Below 60%	

THE AP EXAM!!

The A.P. Statistics exam will be administered the afternoon of Thursday, May 11, 2017. Scoring well on the AP exam may earn you a semester of college credit. It is my expectation that everyone enrolled in this course will take the AP test. Information regarding exam registration will be given to you second semester.

ABSENCES

If you miss class FOR ANY REASON it is your responsibility to get the assignment. Assignment sheets will be given to you (and posted on Canvas) at the beginning of each chapter. Be sure to pick up anything that you may have missed when you were absent.

If you miss class on a test/quiz day, you will be expected to take the test/quiz on the day you return to school. If you miss the day before a previously announced test/quiz, you will be expected to take the test/quiz with the rest of your class. If you miss more than one day I will work with you to make other arrangements.

Try not to miss this class. Most people find it difficult to make up. If you know you will be gone, be sure to get the assignment before you leave.

Problems with absences (excused or unexcused) or tardies will be handled according to the Senior High School attendance policy.

GETTING HELP

Working together is strongly encouraged. (Copying is not.) You will find that you can learn a lot from each other. If you are having trouble with statistics you need to get help IMMEDIATELY. I will be available after school most days, and before school on days when we have no meetings scheduled. Let me know when you want to meet me so we can be sure we are in our room when you are looking for me. You may also come in without an appointment, but it may take a few minutes to track us down.

Canvas, our learning management system, will be a great resource for you. There will be answer keys as well as videos of how to solve some of the "harder" problems. Using Canvas is new for me, so if you know of something helpful, let your instructor know.

BEHAVIOR EXPECTATIONS

This is an Advanced Placement course. I expect you to behave as the responsible students that you are. Should a problem arise we may contact your parents and/or pursue assistance from the office.

Cheating on anything for this class (tests, quizzes, assignments or projects) will not be tolerated. Consequences may include, but are not limited to, a score of zero on the work, contacting your parents and/or Assistant Principal, or an F in the course.

COMMUNICATION

The best way to contact us with any questions or concerns is via email. You may also reach us by phone. Messages left will be returned as soon as possible. We also update PowerSchool after every test or quiz we take within a day or two of the assessment. It is a great way to keep track of your or your child's grade. We will also post homework answers on Canvas for students to check their work.