AP Statistics **Roy & Dora Whitman Academy**
2021-2022

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Welcome to AP Statistics! Statistics was my favourite math class in college, so I am excited to explore it with you at a college level, too! You will soon find that the principles of statistics pop up everywhere, from science and sports to economics and everyday life. As we venture into this fascinating world, we will keep in mind our classroom verse:

Do everything without grumbling or arguing, so that you may become blameless and pure, 'children of God without fault in a warped and crooked generation.' Then you will shine among them like stars in the sky as you hold firmly to the word of life. And then I will be able to boast on the day of Christ that I did not run or labor in vain.
Philippians 2:14-16

To that end, we will work to create a culture of positivity and mutual respect as we strive for excellence in all areas. May we shine brightly as a testimony to the world around us.

I expect everyone to come to this class ready, meaning you have read the textbook before class and finished the homework assignment. This is a college level course. We will go through chapters at a fast pace. If you have not previously taken any AP courses, expect to work hard and do your part well; I am here to help you to learn well and get ready for the AP Exam.

Course Description
The purpose of AP Statistics is to introduce students to the extensive concepts and tools for collecting, analyzing and drawing conclusions from data. There are four broad conceptual areas: exploratory analysis; sampling and experimentation; probability; and statistical inference.

1. Exploratory analysis: Describing patterns and departures from patterns
2. Sampling and Experimentation: Planning and conducting a study
3. Probability: Exploring random phenomena using probability and simulation
4. Statistical Inference: Estimating population parameters and testing hypotheses

Students who successfully complete the course and exam may receive advanced placement credit for a one-semester introductory college statistics course. This does not necessarily mean that the high school course should be one semester long. Statistics, like some other AP courses, could be effectively studied in a one-semester, or two-trimester or one-year course.
Students are expected to have mathematical maturity and quantitative reasoning ability prior to enrolling in this course. A complete working knowledge of graphical and algebraic concepts such as linear, quadratic, exponential, and logarithmic functions

could be defined as mathematical maturity. This course requires students to read their textbook considerably. This course is also taught as an activity-based course in which students actively construct their own understanding of the concepts and techniques of statistics.
Textbook: Starnes, Daren S., Josh Tabor, Daniel S. Yates, and David S. Moore. *The Practice of Statistics,* 5th edition, New York: W. H. Freeman, 2015.

Student Supplies

- Binder and dividers
- Loose leaf paper
- TI-84 graphing calculator
- Writing utensils

Homework: Unless otherwise stated, homework is due at the beginning of class the day after it is assigned. Late homework will be penalized by 10% for every day late. The teacher reserves the right to increase this penalty if homework is repeatedly turned in late. Homework over one week late will not be accepted. Exceptions to these policies may be granted at the discretion of the teacher. It is expected that all homework turned in will be the student's own work. Students are encouraged to work together but may not simply copy another's work.

Homework should include the proper heading and title and be only in pencil. All work should be neatly presented with all steps shown and final answers boxed or circled.

Grading: The grading scale is as given in the Whitman Parent/Student Handbook. Grades will be weighted according to the following:

Tests and projects	40%
Homework, quizzes, and participation	60%

See last page for Classroom Participation Rubric.

Pacing Guide

Unit	Chapter(s)	Title	Time Frame
Sampling and Experimentation			
I. Collecting Data	4	Designing Studies	Weeks 1-3
Exploratory Analysis			
II. Exploring and Understanding Data	1 2	Exploring Data Modeling Distributions of Data	Weeks 4-7
III. Regression	3 12.2	Describing Relationships Transforming to Achieve Linearity	Weeks 8-13
IV. Probability			
Probability	5	Probability	Weeks 14-15

Random Variables	6	Random Variables	Week 16
Semester 1 Review	**Units I-IV**		Weeks 17-18
Sampling Distributions	7	Sampling Distributions	Week 19
Statistical Inference			
Unit Introduction	8.1 9.1	Confidence Intervals Significance Tests	Week 20
V. Inference for Proportions	8.2 9.2 10.1	Estimating a Population Proportion Tests about a Population Proportion Comparing Two Proportions	Weeks 21-25
VI. Inference for Means	8.3 9.3 10.2	Estimating a Population Mean Tests about a Population Mean Comparing Two Means	Weeks 26-28
VII. Inference for Counts and Slope	11.1-2 12.1	Chi-Square Tests Inference for Linear Regression	Weeks 29-31
AP EXAM Review	**Units I-VII**		Weeks 32-35
Cumulative Project			Weeks 36-38

**The syllabus is subject to change as the year progresses.*

I certify that I have read the above and agree to abide by it.

Student signature: _____

Parent signature: _____

Classroom Participation Rubric

Student: _____ Class: _____ Teacher: _____

	Excellent (10 pts)	Good (8-9 pts)	Fair (6-7 pts)	Poor (0-5 pts)
Self-management of learning	Student always comes to class prepared and on time, stays on task, and uses effective study strategies.	Student usually comes to class prepared and uses their time appropriately. They mostly stay on task.	Student often comes to class on time and shows some preparation.	Student is frequently unprepared and cannot focus on their tasks.
Classroom behavior	Student actively engages in classroom activities and contributes to creating a warm classroom atmosphere where students are respected and loved.	Student has appropriate classroom behaviors, helps others, and does not distract others from their learning.	Student usually engages in positive classroom behavior to create a safe classroom community.	Student fails to show respect for others and frequently distracts other students with their actions.
Participation and collaboration	Student often listens attentively, raises meaningful questions, and contributes consistently in group tasks.	Student sometimes asks questions and cooperates with others. Occasionally needs encouragement from the teacher.	Student rarely participates in class and struggles with group tasks. Sometimes makes disruptive comments.	Student refuses to listen and collaborate with others and engages in conversations that are off-task.
Quality of comments	Student consistently gives constructive and insightful comments using correct terminology. The comments contain opinions, thoughtful ideas and criticism, supported by evidence.	Student usually gives constructive and insightful comments. Sometimes the comments are not relevant and too general.	Student does not use appropriate terminology and gives comments that are not relevant to the discussion.	Student comments with heavy reliance on opinion and subjective ideas, like 'It's bad', 'I like it' but without much interpretation.
Appropriate use of technology	Student always uses technology tools with teacher's permission and show a good use of various e-learning tools.	Student usually uses technology at the right time and tries to apply technology to assist their learning.	Student sometimes use technology tools without the teacher's permission.	Student often uses technology tools without teacher's permission.

Total: _____ / 50 points