AP Statistics, 2019-2020
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Welcome to AP Statistics!

<u>Philosophy</u>
Statistics is everywhere in today's society. You do not go a single day without hearing about some study and/or conclusions from a study or an experiment. AP Statistics is designed to be an interactive, thought provoking course, which allows you to construct your own understanding of concepts and techniques of statistics. As such, you will be pushed to think at a higher level. This course will impact your thinking and the way in which you view the world. The goal of the course is to teach you to think carefully about collecting and analyzing data. As such, examples, assignments, projects, etc. will always be tied to the real world. If you find statistics, bring them in and share what you have found.

I am not here to lecture to you, but to facilitate your learning and guide your explorations and formation of hypotheses. You will learn appropriate statistical techniques and a variety of ways to communicate them within the context of statistical activities and experiences. You will gain a working knowledge of statistical vocabulary and will be expected to use it correctly every day. You will also learn to be a competent interpreter and investigator of statistical data and information. In order to do so, you will be expected to be actively engaged in class. You will learn how to make connections between all aspects of the statistical process, including design, analysis, and conclusions. You will be responsible for communicating methods, results, and interpretations using the correct vocabulary.

<u>Special Requirements</u>
As this is an AP level class, there will be several extra requirements:
- You will be required to take the AP Statistics exam on Friday, May 15, 2020.
- You will be expected to take a three-hour practice test outside of school in April 2020.
- You will need to attend before or after-school study sessions when necessary.

<u>Technology</u>
You are expected to use a graphing calculator at all suitable times. You will need to have access to TI-83 or TI-84 calculator throughout the course and on the AP exam. Appropriate calculator skills will be taught throughout the course. (Recommended calculator: TI-84 Plus)

Warning!
This is not your typical "math" class. Although strong math skills are beneficial, reading, writing, and critical thinking skills are necessary for success in this class.

Trying to decide if you want to take AP Stats? Here's some advice from previous AP Stats students:
"Take it! It's really interesting and has no scary-math-stuff." (Disclaimer: probability is a little scary)
"It's not a math class, it's a theory-based course with critical thinking."
"You should take it, it can be applied to any college major and it's a nice break from "normal" math and a great alternative to calc!"
"Don't take it, if you don't want to work."
"It's a lot of work, but it is math that you will use often and is beneficial."
"Think about your work load and decide whether you can handle this class or not."

Already signed up for the class? Here's some advice from previous AP Stats students:
"Actually DO the homework – it helps!"
"Always do the homework, because that really helped me grasp the concepts. You have to try it yourself, to truly get it."
"Don't let senioritis kill you! The most important part of the class comes at the end."
"Study early on – study as often as you can, don't cram!
"Go to class. If you attend class you'll do fine."

Part #1: Due ASAP!

a. **Check out the textbook**: Stats: Modeling the World, by Bock, Velleman, and DeVeaux (hereafter known as BVD). Books are available in Portable 15 until May 29, 2019. From May 30th to August 1st, they can be picked up at the front office of JWMHS.

b. **Sign up for the AP Stats remind.** Please use your first and last name. Text: **@bgstats20** to: **81010** to sign up.

Part #2: Due via email by Friday, August 2, 2019 (aberrygu@pasco.k12.fl.us) – Tell me about yourself!
Please answer the following questions in paragraph form (typed, double-spaced, Times New Roman, 12-point font). Please send this via email as an attachment.

1. What extracurricular activities are you involved at school? Outside of school? Will you have a job during the school year? If so, how many hours do you plan to work each week?
2. What AP courses have you taken? How did you do in the class? On the exam?
3. What AP courses, other than statistics, are you taking this school year?
4. What math class did you take in the 2018-2019 school year? How did you do? Did you enjoy the class? Are you taking a math class simultaneously with AP Statistics this school year?
5. This statistics course involves quite a bit of writing. How do you feel about writing? Do you feel that writing is a strength of yours?
6. What do you plan on doing after you graduate from high school? If it is college, what do you plan on majoring in? Is there a particular college that you'd like to attend?
7. You will be expected to do homework most every night in this course. Is this something you feel that you can commit to? Please explain.
8. Why did you choose this course?

Part #3: Due Monday, August 12, 2019 (First Day of School!) – Read Chapter 1 & 2 and complete the guided reading questions on a separate piece of paper. **Bring this to class** - Please add any additional notes that you feel are important. In the event of a reading quiz, you will be allowed to use this paper.

Chapter1: Stats Starts Here (p. 1-9) Guided Reading Questions

1. Name 3 things that you learned about Statistics in Chapter 1.
2. What information would provide a context?
3. What is meant by, "cases go by different names, depending on the situation"?
4. What is the difference between a sample and a population? How are they related?
5. What is required in order for us to generalize from the sample of cases to the larger population?
6. Explain the difference between an identifier variable, a categorical variable and a quantitative variable. Give an example of each.
7. Classify each of the following as either categorical or quantitative data:
    a. number of students in a classroom
    b. gender of students in a classroom
    c. height of students in the classroom
    d. temperature in the classroom (F°)
    e. age in years
    f. smoker or non-smoker
    g. republican, democrat, independent or other
    h. colors of Skittles
    i. freshman, sophomore, junior or senior

Chapter 2: Displaying and Describing Categorical Data (p. 14-32) Guided Reading Questions

1. According to the authors, what are the three rules of data analysis?
2. What is meant by the area principle?
3. Explain the difference between a frequency table and a relative frequency table.
4. When is it appropriate to use a bar chart?
5. What is the difference between a bar chart and a relative frequency bar chart?
6. When is it appropriate to use a pie chart?
7. When is it appropriate to use a contingency table?
8. What does each cell of a contingency table give you?
9. What does a marginal distribution show?
10. When is it appropriate to look at a conditional distribution?
11. What does it mean for two variables to be independent?
12. How does a segmented bar chart compare to a pie chart?

Failure to complete this work as assigned will be a BIG indication that you are not ready to take on the challenge of this class. It is not acceptable for you to come to class on the first day and say, "I didn't understand what you wanted me to do." I will check my remind and e-mail throughout the summer and respond to any questions you send me.