Introduction

Welcome to NHS AP Statistics 2019-2020! Please find directions for the summer assignment below. The purpose of this assignment is to get us off to a strong start by reviewing material you should know before beginning this course. It essentially covers the first chapter of the AP Statistics book. Successful completion of this assignment ensures that you know what is expected of you this year in this course, gives us sufficient time to cover all material in the course, and provides you ample time to review for the AP exam at the end.

Our textbook is *The Practice of Statistics* **(Starnes, Yates, Moore, 5th ed.).** This source is well-aligned to the AP Statistics curriculum, and the sample problems and activities will prepare you well for the AP Statistics exam. **Furthermore, you need a TI-Nspire graphing calculator or equivalent.** I will demonstrate problems on the TI-Nspire all year, and tips on how to use this calculator are provided in Appendix B of TPS5e. Your textbook explains how to use the TI-83/84 and TI-89 throughout as well. If you choose a different calculator than these, you will need online access to get instructions from the publisher. **Lastly, I recommend a large 2.5" binder, plenty of loose-leaf paper, and graphing paper.**

As this is a college-level course, you are expected to work outside of class a lot. You must dedicate adequate time to assignments, reading, note-taking, and further study. I have set up the curriculum as a flipped classroom for most chapters, which means you will learn about the material on your own. You will read outside of class, watch videos, complete Khan Academy lessons, etc. Class time will be spent on practicing what you learned and how to write your responses in the format that College Board requires. Thus, you will spend a lot of time collaborating with peers, engaging in discussion, critiquing each other's arguments, and helping to better each other, all while actively striving to improve in each of the eight mathematical practices (https://www.teacherstep.com/breaking-down-the-common-cores-8-mathematical-practice-standards/). Furthermore, statistics is all about context. **Therefore, truly, you will read and write far more than in any other course except English Lit/Lang.**

For most assignments and assessments, you will be given choice about how to learn the material and how to prove you have learned and know it. This begins with your summer assignment and first exam. **Read carefully.** It looks like a lot, but you will not do everything. Choose one path, mix and match, or do something else you find that helps you. **Regardless, your first test will be on August 15th.** You will have the choice of a traditional paper-pencil exam with multiple choice and free response questions or a technology based exam that heavily utilizes your graphing calculator and gives you plenty of creative freedom. The content standards assessed are equivalent. Contact me by email at mckinndl@gm.sbac.edu if you have questions.

Caution about academic integrity

Attention & caution! Answers you find on the internet are <u>sometimes incorrect</u> and will often be stated using terminology and techniques <u>not specific to the current AP Statistics</u> curriculum. This will make it easy for me to identify work that is not your own. Thus, DO NOT copy the answers to any assignment from sources you find on the internet. Doing so will be considered plagiarism, and you will consequently earn zeroes and be reprimanded according to ACPS guidelines for such infractions. Though your textbook gives answers to the odd numbered questions, it does not show the work. You must show all your work to derive the answers to receive any credit. Furthermore, answers must be in your own words!

Due Date of Summer Assignments

August 14. HINT: you cannot wait until the last minute and do all of these at once. Procrastination in a college course is NOT successful!!!

Summer assignment part 1—ALL MUST DO the following

1. Sign up for NHS AP Stats Google Classroom: rkhm7zb
2. Sign up for NHS AP Stats 2019-2020 on Khan Academy: 89FRXWJR
3. Email your teacher, Dr. McKinney, an introduction of yourself: mckinndl@gm.sbac.edu
4. Obtain <u>The Practice of Statistics</u> by Starnes, Tabor, Yates, & Moore, 5th edition from Mrs. Steele in the NHS library.
5. Read the syllabus posted on Google Classroom.
6. Read pages xii to xxiii in your textbook. Why? This class models the philosophy outlined herein, you need to know the language and style of College Board's AP Statistics exam, and it teaches you how to use the textbook (yes, that is a required skill).
7. Obtain an appropriate graphing calculator (read above) and familiarize yourself with it.
8. Begin learning how your graphing calculator will do statistics grunt work for you. Complete all technology corners in the first chapter of your textbook. Use the provided calculator tutorials. Or find an equivalent means to learn these skills (YouTube is also great!).

Assignment, Technology-based Path

1. Go to https://www.khanacademy.org/.
2. Complete the assigned 39 skills, tasks, quizzes, and unit tests. These line up with the first chapter of the book. If you can do these, you can do the items in the textbook. Do be sure to know the same vocabulary as introduced in the book, however. I have access to your progress, so you do not need to write anything out to hand in.

Assignment, Traditional Textbook-based Path

1. Read Chapter 1, "Exploring Data" in *TPS5e*. It is lengthy, but it is the easiest chapter we will cover. Familiarize yourself with the jargon, acronyms, and other lingo of the book, e.g. MQs and FRAPPYs. Pay careful attention to examples, calculator procedures, Think About It, Check Your Understanding, and AP Exam Tips.
2. Take notes as you read. You should particularly note the vocabulary.
3. Complete the following Chapter 1 Homework Problems Set. Remember, all work must be completely shown, and written explanations must be in your own words. You will turn this in.
   - i.   1.1 HW: Pgs. 6-7, problems 1, 3, 5, 7.
   - ii. 1.1 HW: Pgs. 20-24, problems 11, 15, 19, 25, 27-33 odds only.
   - iii. 1.2 HW: Pgs. 41-48, problems 37, 39, 53, 59, 69-73 odds only, 77b.
   - iv. 1.3 HW: Pgs. 69-73, problems 81, 89, 97, 105, 107, 109.

Assessment Options on August 15th

1. Analyze data from a sport and players of your selection (access to a computer will be given). You will create histograms, dot plots, box plots, etc. as needed about the statistics involved and use them to make decisions. This assessment requires you to know your calculator very well.
2. Chapter 1 formal test. It will mimic AP's exam style and include 50% multiple choice and 50% free response. This assessment requires only minimal tech expertise up-front at this time.

Enjoy Your Summer!