

AP Statistics Summer Assignment

AP Statistics students,

I hope this finds you all enjoying a wonderful summer vacation! I look forward to a great year of studying statistics with you. To allow us to complete the full curriculum with ample time for exam review in April and early May, we will use the summer assignment to get ahead on key basic concepts of statistics. But first, here are a few thoughts and guidelines regarding AP Statistics:

Advanced Placement Statistics is a rigorous, college-level course intended to prepare students for the College Board's *AP Statistics Exam* in May, 2020. This course will no doubt be strikingly different from previous mathematics courses you have taken. Careful reading and detailed writing are integral parts of the course. Rest assured, we will work very hard, and we will enjoy ourselves as we do so!

What will we learn? The course is roughly comprised of four broad conceptual themes, as outlined below:

(a) Exploring Data: We will learn the methods necessary for exploring data and for describing our results graphically with histograms, stemplots, boxplots, ogives, and time-series plots. In addition, we will describe our results numerically through various "summary measures" such as mean, median, standard deviation, variance, and correlation.

(b) Sampling and Experimentation: We will learn the key differences between an *observational study* and an *experiment*, and we will design and implement both.

(c) Anticipating Patterns: We will explore random phenomena using probability and simulation. We will do extensive work with "Random Variables" which you will soon learn are markedly different from the "variables" you studied and used in algebra courses.

(d) Statistical Inference: We will learn how to estimate population parameters by constructing confidence intervals, and we will learn how to do a number of different *Hypothesis Tests*.

The following assignment will be due on the first full day of class. These problems are taken from the "Exploring Data" category above. You will be tested on this material within the first few weeks of school, so it is critical that you take this assignment very seriously and do your very best work. It is **very important that you do not attempt to do the assigned problems without having first carefully done the reading. These are assigned from our textbook: The Practice of Statistics 4th Edition. You may use a copy purchased from the bookstore, or [this PDF](#).**

Directions: Reading is critical in this course and our summer reading is just as essential as reading you will be assigned throughout the school year. Your summer assignment is as follows:

Part A: Read the following:

- Pages 2-6; Introduction: *Data Analysis: Making Sense of Data*
- Pages 8-22; Section 1.1: *Analyzing Categorical Data*
- Pages 27 -41: Section 1.2: *Displaying Quantitative Data with Graphs*

Part B: Do the following problems with your work clearly presented on notebook paper. Show all procedures clearly and make sure that all graphs are well-labeled (on both axes) and have a descriptive title. You must use a ruler for all axes and all bar graphs. Your work should be complete, concise, and well-documented. In short, it should represent your very best effort.

- Pages 7-8: # 3, 4, 6, 7, and 8
- Pages 22-26: # 11, 14, 15, 18, 23, 24
- Pages 42 – 49: # 37, 38, 39, 40, 43, 46, 47, 51, 52

I will be available for help during the week before school starts. Please e-mail me if you would like to set up a time to meet with me regarding the assigned problems. I look forward to a great year!

Mr. Ross