

**Welcome to Advanced Placement Statistics!** A thorough completion of the work detailed below is necessary to ready yourself for Advanced Placement Statistics and it is a requirement for admission to the course in September.

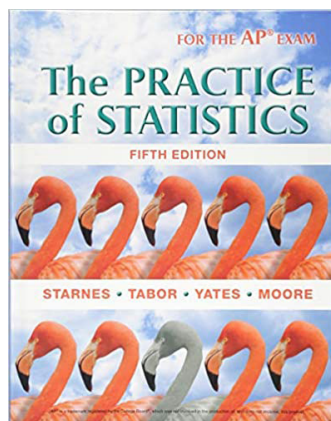
The primary course goal is to understand that models of the world are created with statistics. The following topics form the core of the course:

- Exploratory analysis of data making use of graphical and numerical techniques to study patterns and departures from patterns.
- Data collection according to a well-developed plan which insures that conjectures are supported by valid information.
- Probability tools and methods to anticipate what the distribution of data should look like.
- Statistical inference to guide the selection of appropriate models.

#### Textbook

ISBN-13: 978-1464108730

ISBN-10: 1464108730



**You will complete the following work by August 31, 2020, and submit this work on the first day of class.**

1. Watch the TED Talk at [https://www.ted.com/talks/hans\\_rosling\\_at\\_state?language=en](https://www.ted.com/talks/hans_rosling_at_state?language=en)  
Then submit a reflection about what you learned from Hans Rosling and his view of data and the world. Also discuss what things in the video were surprising to you.
2. Watch the youtube video below that summarizes some of the basic statistics you should have a working understanding of before entering the AP Statistics course. The video is located at: <https://www.youtube.com/watch?v=QoQbR4IVLrs>  
Next, complete the worksheet located at the end of this document which asks you to show various representations of the measures of central tendency covered in the video.

# AP STATISTICS SUMMER 2020

3. Please see the list of vocabulary terms below. Please do the necessary research to define thoroughly each of these terms in writing. Please submit these definitions to Mr. Losardo.  
**Terms to define: Must be done by hand.**

Statistics	sample	dotplot	skewed right
data/datum	population	shape	outliers
individual	context	center	gap
case	frequency table/histogram	spread	median
respondent	relative frequency	mode	range
subject/ participant	table/histogram distribution	unimodal	quartile
experimental unit	bar graph	bimodal	interquartile range (IQR)
observation	pie chart	multimodal	5-number summary mean
variable	distribution	uniform	standard deviation
categorical variable	marginal distribution	symmetric	hypothesis testing
quantitative variable	conditional distribution	tail	
identifier variable	stem and leaf plot	skewed	
		skewed left	

4. Please find online directions to how to do the following on the TI-84 Calculator and familiarize yourself with these processes before the course begins in September:

- Entering data in a list
- Changing data
- Deleting data
- Naming a new list
- Clearing a list
- Deleting a list recreating a list
- Copying a list
- Displaying a histogram
- Displaying a boxplot
- Calculating 1-Variable Statistics (1-Var Stats)

Worksheet on Measures of Central Tendency:

The following are all the quiz grades that Dylan earned throughout the first semester. All the quizzes were graded on a 25 point scale. She took 25 quizzes during the semester.

15, 17, 19, 16, 25, 21, 16, 10, 8, 4, 11, 13, 18, 15, 19, 14, 16, 20, 3, 14, 14, 16, 18, 18, 19

1) Find the mean, median, lower quartile and upper quartile of this data.

2) Compute the Interquartile range ( $Q3 - Q1$ )

3) Using a formula involving the interquartile range  $Q1 - (IQR * 1.5)$  and  $Q3 + (IQR * 1.5)$ , to determine if there are any outliers in the given data set.

4) Draw a box and whisker plot of this data.

5) Draw a Frequency Distribution of this data.

6) Draw a Relative Frequency Distribution of this data.

7) Draw a Dot Plot of this data.