Final Project (Spring 2020)

The final requirement for this course is the completion of a project that demonstrates your understanding of the major concepts of AP Statistics. Most importantly I want you to use the final project as an opportunity to demonstrate how you can use the concepts learned in AP Statistics to better understand a topic of interest to you. I wonder _____? Well, what story does the data tell? Given limitations imposed by this year's remote learning format and recognition of the late May date of the AP Statistics Exam, I have modified the requirements.

You have several options:

Traditional Project (except that you may not be generating original data):
1) Choose a good question to investigate, something you are interested in.
2) Design an appropriate study or experiment.
3) Collect good data; they may come from a survey (but none with voluntary response bias), observational study, experiment, or existing data sources such as publications or the internet.
4) Summarize your data using appropriate graphical displays, summary statistics, and verbal descriptions.
5) Make inference(s) based on your data.
6) State your conclusions.
7) Present your research to the class through a recorded video (of your PowerPoint etc.). The presentation is also your report so it is fine to have a few "busy" reference slides showing data or detailed descriptions that aren't necessarily discussed in the presentation.

Peer Review
1) Choose a good question to investigate, something you are interested in.
   Find an article(s) you wish to peer review. Make sure there is some data presented in a way that allows you to do your own inference procedure. The LHS library has numerous research resources https://lhs.fuhsd.org/academics/library
   Extensive list of scientific journals / social science journals by topic
   PLOS open access publisher – COVID19
2) Peer review the article(s) by following the instructions in the first two links below.
3) Use data from the article to conduct an inference procedure, being sure to show all steps. This can be separate or part of your peer review.
4) Present your review to the class through a recorded video (of your PowerPoint etc.). The presentation is also your report so it is fine to have a few "busy" reference slides showing data or detailed descriptions that aren't necessarily discussed in the presentation.

   How to Read a Manuscript as a Peer Reviewer (PLOS)
   Step by step guide to reviewing a manuscript (Wiley)
   How to write a peer review: practical templates, expert examples (publons)
   Peer Review – the nuts and bolts (Sense about Science)
   What to know about peer review (Medical News Today)
   I Don't Know What to Believe - Making Sense of Science Stories (Sense about Science)

AP Statistics

Other:
1) If you have demonstrated mastery of each diverse AP Statistics topic, you can design your own final project that doesn't include statistical inference. Ideally this would combine statistical analysis with an existing passion (such as CS, theoretical math, scientific inquiry, etc.). *Please check with me for approval before proceeding.*
2) Present your research to the class through a recorded video (of your PowerPoint etc.). The presentation is also your report so it is fine to have a few "busy" reference slides showing data or detailed descriptions that aren't necessarily discussed in the presentation.

Schedule

by 5/11	submit the final project proposal form in Schoology.
5/26,27,28,29	Senior due dates 11pm the night before class / class presentations.
6/1,2,3,4	Sophomore and Junior due dates / class presentations.

Grades

This year's final project will be in lieu of a written final exam. It will count for **1/3rd of your remote learning grade and thus 10% of your semester grade**. You can work by yourself or in groups of at most four people, but there is a catch. **Each person should complete and present an inference procedure, being sure to show all steps.** Additionally, *if you were absent for a major test earlier in the semester and were unable to make it up before we started remote learning, you must do an individual project.* The project grade will also count as your make up test grade.

To whom it may concern, ideally for letters of recommendation I like to have a plethora of evidence to answer, "What differentiates _____ from other elite students is _____." The final project is an excellent opportunity for me to site evidence that verifies such a statement.

Sample Traditional Project Evaluation

Final Project Rubric

Requirement	Comments	Score (out of 10)
1) Good question to investigate?		
2) Design of study or experiment		
3) Good data collection?		
4) Summary of Data (Gr,St,Verb)		
5) Proper Inferences		
6) Proper Conclusions		
7) Presentation to the class		
8) Written report/presentation		