MATH 103/GRACEY
SEMESTER PROJECT (EXTRA CREDIT)

DUE 5/13/2013—THERE IS A 10% PENALTY EACH **DAY** AFTER THE DUE DATE—NO PAPERS ACCEPTED AFTER 5/17/2013

Instructions for Statistics Project

- Length: 3-5 pages
- You may work with a partner or independently
- You must cite all sources. The following site may be helpful to you: http://owl.english.purdue.edu/owl/resource/747/01/

DATA COLLECTION

You must use the type of data and have a large enough sample size so that you can conduct one of the hypothesis tests and construct a confidence interval about the parameter, or run a linear regression so that you may find the least squares regression line and make predictions using this line. You have three options for your data:

1. Develop your own research project independently or as a group.
    - Decide a topic that you are interested in and want to collect data on.
2. Use data already collected on the CD in your Triola book.
3. Use data already collected on the internet.

Option 1:

- Discuss any bias in your data collection (and remember, all data has bias)

Option 2:

- Discuss the source of the data and any bias that may be associated with the data collection.

Option 3:

- Discuss the source of the data and any bias that maybe associated with the data collection.

SUMMARIZE AND INTERPRET YOUR DATA

Summarize your data using at least two of the graphs or plots you have learned how to create this semester. Use technology to create the graphs, such as Microsoft Excel, Minitab, SPSS, or R. Discuss the best measure of center for this data. Discuss the best measure of spread of the data. Comment on any unusual features, such as unusual values and/or outliers.

Run a hypothesis test and create a confidence interval about the parameter, or if your data is linear, find the least squares regression line. Interpret your results.

CONCLUSION

Your conclusion should include recommendations for the replication of your study and other directions you may wish to investigate in the future.