

Instructions: This exam is in two parts: Part I is to be completed partly at home using the materials posted in the course for the at-home portion and you will answer questions about that work during the in-class portion of the exam; Part II is to be completed entirely in class. You may not use cell phones, and you may only access internet resources you are specifically directed to use.

At home, prepare for questions in Part I using R. Open the data file entitled **324exam1data.xlsx** posted in Blackboard. Complete the calculations noted below. You will be asked for additional analysis and interpretation of this data in the in-class portion of the test. Print out the results of your analysis and code, and bring the pages with you to the exam. You will submit all this work along with the in-class exam.

The data represents the number of hours studied for an exam by students in a lecture course. Create the following graphs:

1. A histogram of "Hours Per Week". Your histogram should have a bin width of 3-4. Label the graph appropriately.
2. Create a bar graph of GPA category (counts). Label the graph appropriately.
3. Create a comparative boxplot of Hours Per Week by GPA category. Label the graph appropriately.
4. Calculate a set of descriptive statistics for Hours Per Week. Be sure to have enough information to identify any extreme values.
5. Create a frequency table of GPA.
6. Find the indicated probabilities.
 - a. Based on previous experience, it is found that 75% of people getting into a driving simulator put on their seatbelts. What is the probability that among the next 15 people that get into the simulator, more than 12 of them will put on their seatbelts?
 - b. A drive thru at a particular bank sees 15 customers pass through during a particular hour of the day. Determine the probability that the drive thru will see 5 or more passengers in the next 20 minutes?
 - c. The height women has a mean of 64.3" and a standard deviation of 3.1". What is the probability that a randomly selected woman will stand more than 71" tall?