# Lab 2 Assignment

MA 2611

*Successful completion and submission of this assignment in html, pdf, or docx format through the use of R Markdown will meet one of your two required assignments for the **L.1 standard**. The following problems are numbered based on the lab standard that is intended be met. Your grade will be based on whether these standards are met. Refer to the syllabus for further details on standards-based grading.*

**Problem L.5.** Using the built-in *iris* data frame, create an x-y scatterplot of the variables "sepal width" on the x-axis and "sepal length" on the y-axis. The scatterplot must meet the following criteria:

- Contains multiple groups of data separated by "species" types
- "Species" types are distinguished using different symbols and colors which differ from the default settings and those used in the lab activities
- Contains appropriate axis labels and a title

**Problem L.6 and L.7.** Using the built-in *ChickWeight* data frame:

a. Create a singular boxplot of the "weight" data which meets the following criteria:
   - Uses a fill color which differs from the default settings and was not used in the lab activities
   - Contains appropriate axis labels and a title

b. Create a boxplot of the "weight" data grouped by "diet" which meets the following criteria:
   - Uses different fill colors for each box not used in the lab activities or in **part a**
   - Contains appropriate axis labels and a title

c. Interpret the boxplots from **parts a and b**. Which plot depicts the "weight" data more accurately and why? Are there any outliers? Is there a diet type that differs from the others?

**Problem L.8.** Using the built-in *quakes* data frame, **create and interpret** a histogram of the "mag" data which meets the following criteria:

- Uses fill and line colors which differ from the default settings and were not used in the lab activities
- Contains appropriate axis labels and a title
- Has a bin width that accurately displays the skewness of the data

**Problem L.9.** Using the built-in *iris* data frame, **create and interpret** a histogram of the "sepal width" grouped by "species" type. The histogram must meet the following criteria:

- "Species" types are distinguished using different colors which differ from the default settings and those used in the lab activities
- Contains appropriate axis labels and a title
- Has a bin width that accurately displays the skewness of the data and visualizes the differences between the "species" types