

**HW1**  
**STAT/BIOS 543**  
**Spring 2016**

HW1 is due Tue, Feb 9<sup>th</sup> at the beginning of the class.

1. Read “The IMRAD Structure: a 50 year survey” paper and answer the following:

\*Note: The paper is available on blackboard-> HW1

- a) What is the population of interest?
- b) What is the sample and how much is the sample size
- c) Determine the parameter of interest.
- d) Determine the statistic.
- e) Determine the design of the study.
- f) What is the research question(s) of interest? Determine which one is the primary question and which one is the secondary?
- g) What are the variables in the study and how were they measured?

2. Complete the following using R: (Please submit the R code and add comments)

\*Note: The dataset is available on blackboard-> Dataset ->R Class Datasets

- a) Read the dataset **Density.csv** into R and store it in Dens1data.
- b) Create a subset dataset that includes observations for Sites 1 through 10 only and name it Density10.
- c) Create a subset dataset that includes observations for Sites 11 through 20 only and name it Density20.
- d) Create a subset dataset that includes observations for Sites 21 through 30 only and name it Density30.
- e) For the Dens1data, report the summary statistics for each variable taking into account the type of each variable.
- f) For each of the datasets Dens1data, Density10, Density20, and Density30, consider the variable **Dens** and create a histogram. Make sure to add an informative title and labels.
- g) Create a boxplot for the variable **Dens**, considering Density10, Density20, and Density30. Make sure to add an informative title and labels.