1. **SESSION 1: Fundamentals of R**
   1. What is R?
      1. Why R?
      2. Why RStudio?
   2. Fundamentals of R (examples with Prestige data throughout)
      1. Intro to RStudio >> open script
      2. Data structures
         1. Basic data types
         2. Vectors/matrices
         3. Data frames (str function)
      3. Subsetting/indexing (focus on these!!)
2. **EXERCISE 1: Data I/O with Auto MPG data** 
   * 1. Read in data
     2. Have 3 tasks for them to complete. Last one should not be doable without google.
     3. Which and %in% (use data set with some sort of outlier/leverage point)
3. **BREAK**
4. **SESSION 2: EDA (examples with Prestige data throughout)**
   1. Functions, Packages, Help
   2. Summary function
   3. Plot plot plot
      1. Scatterplot matrices
      2. Histograms
      3. Boxplots
5. **EXERCISE 2: EDA with Auto MPG data**
   1. Scatterplot matrix
   2. What variables have relationships with each other & the response (confounders, etc)
6. **LUNCH**
7. **SESSION 3: Linear Regression**
   1. Histograms then T-test with sim data
   2. T-test with prestige data
   3. Transition into linear regression
   4. Interpreting coefficients
   5. Test of significance (tie in with t-tests)
   6. Plotting the lm fit w/ smoother (maybe simulate a quadratic relationship to show polynomial fit)
   7. Diagnostics (make sim data with outlier so diagnostics actually useful)
8. **EXERCISE 3: Linear Regression with Auto MPG data**
   1. Fit model
   2. Interpret results
   3. Predict mpg for observations with missing mpg
9. **BREAK**
10. **SESSION 4: Logistic regression with O-Ring Data**
    1. Pitfalls of linear regression on this type of data
    2. Intro to LogReg
    3. Intro to glm()
    4. Fit to o-ring data
    5. Predict() for temp on day of crash

**Miscellaneous:**

O-Ring: only plotted failures (visualization problem)

<https://archive.ics.uci.edu/ml/datasets/Auto+MPG>

<https://archive.ics.uci.edu/ml/datasets/Challenger+USA+Space+Shuttle+O-Ring>

<https://www.stat.ubc.ca/~jenny/teach.html>