Course Name: Introduction to Data Analysis and Graphics Using R

Course Description:
This course is intended to provide first-time users the ability to manipulate, summarize, analyze, and display various types of data in R. Below is a general course outline – topics may vary based on time and interest.

Day 1: Introduction
- Using functions and assigning objects
- Interacting with external data
- Logical indexing and subsetting
- Recoding variables, modifying data

Day 2: Managing Data, Basic Data Analysis and Plotting
- Basic plotting functions
- Descriptive statistics
- t-tests, chi-squared tests, one-way ANOVA

Day 3: More Analysis and Ggplot
- Correlation and regression
- Multi-factor ANOVA
- ggplot2

Day 4: Advanced Models and Programming
- Logistic regression
- Mixed models
- Control flow
- User-written functions
- Simulations