**R Learning Infrastructure Planning**

**Goal:** This project will develop an infrastructure that can help individuals easily learn and use R and RStudio. This infrastructure will include elements like: concept descriptions [modules], tutorials, exercises, resources, and references.

**Concept modules:**

* Introduction to R and RStudio
* Downloading R and RStudio
  + What is CRAN and why is that a good thing?
* Installing R and RStudio
* Tour of RStudio
* Setting the default folder in RStudio
* Installing R packages in RStudio
* Updating R and RStudio
* Updating packages in R and RStudio
* R scripts [saving you code]
  + Opening an R script
  + Executing code in an R script
    - Running the entire script
    - Running selected lines from a script
  + Saving an R script
  + Comments in an R script [documenting your code]
    - Real programmers do not document their code. If it was hard to write, it should be hard to understand.
* Functional programming
* Using the RStudio command line
* R as a calculator
* R objects as storage entities
  + Save a value or string in an object
  + Change the value of an object
  + Save the output of a function in an object
* Read data into R
  + Read a csv file
  + The default R datasets included in the base R distribution
  + Read an R dataset
  + Other input file types
* Saving an R data file
  + R dataset files
  + Text files
  + Editing text files in Excel
* Working with a vector or data frame [indexing]
* Internet resources [...use the Google...]
* Function arguments
  + Understanding R package documentation
* R error messages and odd behavior
* Creating your own R functions
* Charts and plots in R
  + Base charts and plots in R
  + Charts and plots using ggplot2