Day One, Five hours

Day 1, Topic 1: Intro to R and Rstudio IDE
- Survey of the utility of R and describe the use of external libraries.
- Introduce R and RStudio IDE and take the first steps using R.
- Understand the components of the console and learn how to assign variables.
- Introduction of basic data types in R.

Day 1, Topic 2: Reading data into R, saving data
- Import data
  - comma delimited (.csv)
  - native R (.RData)
  - Examples of other file types

Day 2, Topic 3: Functions
- Functions in R and their syntax.

Day 1, Topic 4: Vectors, Matrices, Lists
- Introduction to base R data classes.
- Manipulate and create data using fundamental functions.
- Create and use data frames.
- Subset values and perform statistical and mathematical operations on data.

Day 1, Topic 5: Data visualization 01
- Introduction to the most commonly used base graphics.

Day 1 Take home enrichment exercises
Day Two, Five hours

Day 2, Topic 1: Indexing
   - Indexing and sub-setting vectors and matrices.

Day 2, Topic 2: Loops
   - Your first looping script.

Day 2, Topic 3: Data Frames and Factors

Day 2, Topic 4: Libraries
   - Introduction to the commonly used libraries
   - Participant-specific libraries

Day 2, Topic 5: Data visualization 02
   - Customize and personalize figure properties (Axes, Legends, and Scales).
   - Change the color scheme
   - Control various plot aspects
   - “legend”, “text”, and “mtext”

Day 2 Take home enrichment exercises
Day Three, Five hours

Day 3, Topic 1: Developing an R script
  o Introduction to coding syntax.

Day 3, Topic 2: Your first function
  o Writing functions syntax
  o Debugging
  o How and should do non-programmers write code

Day 3, Topic 3: Utility of R
  o String manipulation
  o Geographic data classes
  o Multivariate statistical analysis
  o Univariate statistical analysis

Day 3 Take home enrichment exercises