

# Proposed Outline For GED R Training

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This is likely to be a working outline and should change some as the discussions progress and the materials develop. The workshop is designed around my own idea of what a common data analysis workflow would entail: get -> clean -> explore -> visualize -> analyze.

I hope this workshop to be more hands-on exercises and less show and tell. After the workshop you won't be an expert but should have the foundation for getting started on your own data analysis work in R and will know where and how to get help.

This outline and way of thinking about teaching R is greatly influenced by both [Software Carpentry](#) and [Data Carpentry](#). I have borrowed a great deal of the materials from both places.

## Introduction

- Getting R and RStudio going
- Using packages
- Using functions
- Help!

## Get

- Data types and structures in R
- Reading data into R

## Clean

- Subset and Indexing
- Reshaping and modifying data

## **Explore**

- Exploratory data analysis
- Summary Statistics

## **Visualize**

- Base graphics
- ggplot2

## **Analyze**

- Some “more advanced” statistics
- ANOVA
- regression (linear, logistic)
- randomForest
- pca
- suggestions?

## **Advanced Topics (time/interest dependent)**

- Programming with R
- R as GIS
- Reproducible Research
- Creating your own packages