Installing the latest version of R (3.4.2) and RStudio (1.1.383) - a powerful user interface for R - on your computer.

R is available here: <http://cran.r-project.org/>

RStudio is available here: <http://www.rstudio.com/products/rstudio/download/>

* RStudio Support - <https://support.rstudio.com/hc/en-us/categories/200035113-Documentation>
* More RStudio shortcuts - https://support.rstudio.com/hc/en-us/articles/200711853-Keyboard-Shortcuts

Resources for learning R with R:

1. [**swirl**](http://swirlstats.com/)- highly recommend.  If you need a place to start, start here. Fun interactive experience to learn R in R.  From the homepage click [Learn](http://swirlstats.com/students.html) and follow their handy step-by-step instructions. http://swirlstats.com/
2. **Quick-R** – easy to search website for quick examples <http://statmethods.net>
3. **DataCamp** – Courses and tutorials on R & Data Science https://www.datacamp.com/courses

Cheatsheets

1. **R Cheat Sheets** - <https://www.rstudio.com/resources/cheatsheets/>
2. **Minimal R for Intro Stats** - http://www.calvin.edu/~rpruim/R/MinimalR.pdf
3. **R Reference Card** - http://cran.r-project.org/doc/contrib/Short-refcard.pdf

Instructional reading material

1. **Student Guide to R using mosaic** - <http://cran.r-project.org/doc/contrib/Horton+Pruim+Kaplan_MOSAIC-StudentGuide.pdf>
2. **R for SAS and SPSS Users** <http://r4stats.com/books/r4sas-spss/>
3. **R in Action** http://www.manning.com/kabacoff/
4. **simpleR: Using R for Introductory** Statistics <http://cran.r-project.org/doc/contrib/Verzani-SimpleR.pdf>
5. **An Introduction to R** – (very dense but thorough) http://cran.r-project.org/doc/manuals/R-intro.pdf

Blogs

1. **R-Bloggers** - highly recommended.  Blog that connects other bloggers blogging about R <http://r-bloggers.com>
2. **SAS and R Blog** – for those who want to compare SAS and R tasks <http://sas-and-r.blogspot.com/>

Slides

1. **Introduction to R and LaTeX for Institutional Research** by Jason Bryer <https://github.com/jbryer/IntroR/blob/master/Slides/IntroRandLaTeXforIR/IntroRforIR-Presentation.pdf>
2. **Intro to R slides** by Garrett Grolemund <https://github.com/rstudio/Intro/tree/master/slides>

Useful packages

1. **tidyverse** – A package of very useful packages including:
   1. **ggplot2** - Fantastic package for creating really nice looking graphics http://had.co.nz/ggplot2
   2. [**dplyr**](https://github.com/hadley/dplyr) – for most data manipulation tasks https://www.rstudio.com/wp-content/uploads/2015/02/data-wrangling-cheatsheet.pdf
   3. [**tidyr**](https://github.com/hadley/tidyr) – for converting between wide and long formats http://blog.rstudio.org/2014/07/22/introducing-tidyr/
   4. [**readxl**](https://github.com/hadley/readxl) – for reading Excel data <http://blog.rstudio.org/2015/04/15/readxl-0-1-0/>
   5. **haven** – for reading SPSS, Stata, and SAS data http://haven.tidyverse.org/
   6. [**stringr**](https://cran.r-project.org/web/packages/stringr/vignettes/stringr.html) – for text parsing and manipulation https://cran.r-project.org/web/packages/stringr/vignettes/stringr.html
   7. [**lubridate**](https://cran.r-project.org/web/packages/lubridate/vignettes/lubridate.html) – if you ever need to work with any date fields <https://cran.r-project.org/web/packages/lubridate/vignettes/lubridate.html>
   8. **forcats** – to handle categorical variables http://forcats.tidyverse.org/
2. [**mosaic**](http://mosaic-web.org/r-packages/) – Data sets and utilities from Project MOSAIC (mosaic-web.org) used to teach mathematics, statistics, computation and modeling with consistent syntax for functions http://mosaic-web.org/r-packages/
3. **likert** – for analyzing and visualizing Likert items http://jason.bryer.org/likert/
4. [**ggvis**](http://ggvis.rstudio.com/) – ggplot2 “done right” and tuned for interactive graphics http://ggvis.rstudio.com/
5. **psych –** Package contains lots of useful functions for descriptive statistics. https://cran.r-project.org/web/packages/psych/vignettes/overview.pdf
6. [**knitr**](http://yihui.name/knitr/)(<http://yihui.name/knitr/>) / [**rmarkdown**](http://rmarkdown.rstudio.com/) (http://rmarkdown.rstudio.com/ )– for reproducible data analysis with literate programming, great set of tools that you can use from day 1
7. [**googlesheets**](https://github.com/jennybc/googlesheets) – for loading data directly from Google spreadsheets https://github.com/jennybc/googlesheets
8. [**htmlwidgets**](http://www.htmlwidgets.org/) – this is actually a collection of packages for plots: see leaflet for maps and dygraphs for time series, for example http://www.htmlwidgets.org/