

Workshop-related resources

Links to notes for our summer workshops

- Day 1 workshop¹

Books

While there are a large number of resources available for R, the following form a core start point:

1. R for Data Science² is available online and can also be purchased from various sellers. It is a solid introduction to using the tidyverse set of packages and working with R in general.
2. ggplot2: Elegant Graphics for Data Analysis³ is an excellent in-depth look at the ggplot2 package and its capabilities.
3. Linear Models with R⁴ discusses linear modeling with a more practical viewpoint and using a lot of R code in the process.
4. Extending the Linear Model with R: Generalized Linear, Mixed Effects and Nonparametric Regression Models⁵ discusses more advanced modeling, including topics like Logistic Regression, Random Effects and Repeated Measures.
5. An Introduction to Statistical Learning: with Applications in R⁶ is a great broad introduction to various topics related to statistical learning.

Cheatsheets

- Various RStudio-provided cheatsheets⁷. Most other links are from that site.
- Data Import⁸ with the readr package and its friends.
- Graphing⁹ with ggplot2.
- Data Transformations¹⁰ with dplyr. There is also an older version¹¹ that is slightly different.
- The stringr¹² package for string manipulations.
- The purrr¹³ package for working with lists of items in a consistent way.
- R Markdown¹⁴ and another reference¹⁵.

¹workshops/WorkshopDay1.html

²<http://r4ds.had.co.nz/>

³<https://www.amazon.com/ggplot2-Elegant-Graphics-Data-Analysis/dp/331924275X/>

⁴<https://www.amazon.com/Linear-Models-Chapman-Statistical-Science/dp/1439887330>

⁵<https://www.amazon.com/Extending-Linear-Model-Generalized-Nonparametric/dp/149872096X/>

⁶<https://www.amazon.com/Introduction-Statistical-Learning-Applications-Statistics/dp/1461471370>

⁷<https://www.rstudio.com/resources/cheatsheets/>

⁸<https://github.com/rstudio/cheatsheets/raw/master/data-import.pdf>

⁹<https://github.com/rstudio/cheatsheets/raw/master/data-visualization-2.1.pdf>

¹⁰<https://github.com/rstudio/cheatsheets/raw/master/data-transformation.pdf>

¹¹<https://www.rstudio.com/wp-content/uploads/2015/02/data-wrangling-cheatsheet.pdf>

¹²<https://github.com/rstudio/cheatsheets/raw/master/strings.pdf>

¹³<https://github.com/rstudio/cheatsheets/raw/master/purrr.pdf>

¹⁴<https://github.com/rstudio/cheatsheets/raw/master/rmarkdown-2.0.pdf>

¹⁵<https://www.rstudio.com/wp-content/uploads/2015/03/rmarkdown-reference.pdf>

- RStudio IDE¹⁶.
- Mosaic¹⁷

Datasets

- compression.xlsx¹⁸ Data on the effects of various compression techniques, collected by Shelby Williamson for her senior thesis project at Hanover College, under the supervision of Molly Winke.
- targeting.sav¹⁹ Data from the “Tuttle Shooting Decisions Study”, provided by Kati Tuttle.

Other links

¹⁶<https://github.com/rstudio/cheatsheets/raw/master/rstudio-ide.pdf>

¹⁷<https://github.com/rstudio/cheatsheets/raw/master/mosaic.pdf>

¹⁸[datasets/compression.xlsx](#)

¹⁹[datasets/targeting.sav](#)