

# Workshop-related resources

## Books

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

1. R for Data Science<sup>1</sup> 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 Analysis<sup>2</sup> is an excellent in-depth look at the ggplot2 package and its capabilities.
3. Linear Models with R<sup>3</sup> 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 Models<sup>4</sup> discusses more advanced modeling, including topics like Logistic Regression, Random Effects and Repeated Measures.
5. An Introduction to Statistical Learning: with Applications in R<sup>5</sup> is a great broad introduction to various topics related to statistical learning.

## Cheatsheets

- Various RStudio-provided cheatsheets<sup>6</sup>. Most other links are from that site.
- Data Import<sup>7</sup> with the readr package and its friends.
- Graphing<sup>8</sup> with ggplot2.
- Data Transformations<sup>9</sup> with dplyr. There is also an older version<sup>10</sup> that is slightly different.
- The stringr<sup>11</sup> package for string manipulations.
- The purrr<sup>12</sup> package for working with lists of items in a consistent way.
- R Markdown<sup>13</sup> and another reference<sup>14</sup>.
- RStudio IDE<sup>15</sup>.
- Mosaic<sup>16</sup>

---

<sup>1</sup><http://r4ds.had.co.nz/>

<sup>2</sup><https://www.amazon.com/ggplot2-Elegant-Graphics-Data-Analysis/dp/331924275X/>

<sup>3</sup><https://www.amazon.com/Linear-Models-Chapman-Statistical-Science/dp/1439887330>

<sup>4</sup><https://www.amazon.com/Extending-Linear-Model-Generalized-Nonparametric/dp/149872096X/>

<sup>5</sup><https://www.amazon.com/Introduction-Statistical-Learning-Applications-Statistics/dp/1461471370>

<sup>6</sup><https://www.rstudio.com/resources/cheatsheets/>

<sup>7</sup><https://github.com/rstudio/cheatsheets/raw/master/data-import.pdf>

<sup>8</sup><https://github.com/rstudio/cheatsheets/raw/master/data-visualization-2.1.pdf>

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

<sup>10</sup><https://www.rstudio.com/wp-content/uploads/2015/02/data-wrangling-cheatsheet.pdf>

<sup>11</sup><https://github.com/rstudio/cheatsheets/raw/master/strings.pdf>

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

<sup>13</sup><https://github.com/rstudio/cheatsheets/raw/master/rmarkdown-2.0.pdf>

<sup>14</sup><https://www.rstudio.com/wp-content/uploads/2015/03/rmarkdown-reference.pdf>

<sup>15</sup><https://github.com/rstudio/cheatsheets/raw/master/rstudio-ide.pdf>

<sup>16</sup><https://github.com/rstudio/cheatsheets/raw/master/mosaic.pdf>

## Datasets

- `compression.xlsx`<sup>17</sup> 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.

## Other links

---

<sup>17</sup>[datasets/compression.xlsx](#)