

Additional online tutorials and resources for using R

All references compiled by Lucas Legendre – [email me](#) if you have any question.

I. If you prefer a written step-by-step tutorial for basic functions:

R for data science: <https://r4ds.had.co.nz/>

The best reference book on the subject, organized by online chapters, with tutorials and examples. One of the authors of this book, [Hadley Wickham](#), is Chief Scientist at RStudio and creator of a group of R packages called the [tidyverse](#), which help you format and plot your data in a simple way. You will likely use one of them, **ggplot2**, but be aware that many others, like **tidyr** or **dplyr**, which use a different grammar than the basic R functions shown in our R modules, can be very useful!

Data science with R: <https://garrettgman.github.io/>

A slightly simpler, but less complete version of the above: introduction to model fitting, model selection, tidy data using tidyr... with simple examples.

r-statistic.co: <http://r-statistics.co/>

An online database of R tutorials by Steve Prabakaran, from the basics to advanced data analysis, tips for ggplot2, and machine learning. Focused on learning through intensive practice, so the tutorials can be very dense, but all the information is very well-structured.

R basics with tabular data: <https://programminghistorian.org/en/lessons/r-basics-with-tabular-data>

A short tutorial by Taryn Dewar on formatting and analyzing large datasets, which some of you might end up doing. Several short examples and links to other tutorials are included.

– Resources for plots:

The R Graph Gallery: <https://www.r-graph-gallery.com/index.html>

The best reference when it comes to plots! All types of plots are grouped by clickable categories, with a graphic guide so that you know what you pick, and provide many examples of codes with options for colors, legends, etc. to produce the plot that fits your dataset the best.

From Data to Viz: <https://www.data-to-viz.com/>

Companion to the R Graph Gallery, showing a flowchart of options for plot depending on the type of data you have. You can just choose through a series of clicks the plot(s) that suit your data and visualization preferences the best, and find examples in R, but also in Python.

– For R Markdown:

R Markdown: the definitive guide: <https://bookdown.org/yihui/rmarkdown/>

A very complete guide of RMarkdown, introducing its basic syntax, uses, export formats, along with tutorials.

R Markdown by RStudio: <https://rmarkdown.rstudio.com/>

The official companion site from RStudio for Markdown, with lots of examples and tutorials (including videos), and examples of outputs you can produce. An RStudio cheat sheet is also available, as for other R features (see section *Online resources on R* in the syllabus).

II. If you want to look for help for a specific function, package, or just ask for help, period:

R-bloggers: <https://www.r-bloggers.com/>

Custom search tool with detailed tutorials on pretty much any R function and package – whatever analysis you can think of, it will give you a useful result! Some tutorials are in both written and video format.

StackOverflow for R: <https://stackoverflow.com/questions/tagged/r>

The largest online database for coders, StackOverflow, has a subsection dedicated to R users. Anybody can ask a question, answer a question, and/or upvote an answer. If you type an R error message in Google to understand why your code doesn't work, you're very likely to find a link to one of these questions. If you don't find the answer you're looking for, you can also [sign up and ask your own question](#) – somebody will most likely try to help you!

CrossValidated: <https://stats.stackexchange.com/>

A subcategory of StackExchange dedicated to statistics, with many questions specifically on R, but not only. The interface works like that of StackOverflow (see above), which is part of the same company. If you have a theoretical question about a specific statistical method, this is the place to ask. People will often provide references in their answers, which you are encouraged to read as well – never take someone's word for it! Always try to replicate the provided code, or look up the described procedure to see if it is the answer you were looking for.

III. If you prefer to learn through a video format:

Introduction to R and RStudio: <https://www.youtube.com/watch?v=IL0s1coNtRk>

Part one of two long tutorials – there is a lot in there, but it covers most of the basics. This channel is hosted by Hefin Rhys, a Senior Data Scientist at the Francis Crick Institute, and all his videos are really good – check out his channel!

StatQuest with Josh Starmer: <https://www.youtube.com/user/joshstarmer/videos>

Josh Starmer is an Assistant Professor of Genetics at UNC, and does a lot of tutorials on statistics to explain in simple ways what each method actually does to a dataset – it may sometimes feel a bit stripped-down, but the explanations are always very clear and

detailed. He also maintains [a website](#) where he can give additional info on some of his tutorials.