

# Resources for Learning R

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## R Tutorial – W3Schools Online Course

<https://www.w3schools.com/r/default.asp>

**Overview:** W3Schools provides free online lessons that will help teach you the very basics of R. It gives you actual problems you can do on your own which I think is very helpful, but its main drawback is that it only covers the very basics; it will not be able to help you much near the end of the semester.

### Pros

- Gives examples you can work out yourself, starts with the very basics and walks you through each step.
- Teaches how to make plots using base R instead of installing packages.
- Very clear layout, can easily find sections to work on specific topics.
- Free

### Cons

- Covers the basics but doesn't get into more advanced topics that come up later in class.

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## SWIRL – R Lessons in R

**Overview:** SWIRL is a package made by students at John Hopkins University that will teach you how to do R in the R console, so you will get hands on experience in the actual program itself. I haven't personally gone through all 15 lessons it has, but from what I have seen it seems very helpful. The biggest downside is that you have to run some other lines of R code in order to get it started up, but after that it is very easy to navigate.

**Setup:** To get started with SWIRL, open up R, copy and paste the following lines of code, and run them (in this order). After you run the last line `swirl()` the lessons will begin in your console.

```
install.packages("swirl")  
library(swirl)  
install_from_swirl("R Programming")  
swirl()
```

### Pros

- Get to learn R in the actual program
- Highly interactive, you can actually see what you are accomplishing at each step.
- Can choose to do lessons in whatever order if you are looking for help in just one specific area of R.

### Cons

- Requires the installation of the `swirl` package which requires additional R code (provided above).

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## Intro R – Learn R on YouTube

<https://www.youtube.com/playlist?list=PL8S7d85iiYRUwhpqKyhHQbqXUjXbEC9jC>

**Overview:** This is a YouTube playlist of videos about R concepts for a class from the University of Utah. In all honesty I haven't watched all the videos so I am not 100% sure if all of them are helpful, but it does contain 32 videos about various different subjects so you can pick and choose based on what you are learning. There are a fair amount of videos about subjects beyond your class but those can be ignored.

### Pros

- Lessons are in a video format so if you learn better by seeing other people code this may help.
- Covers a wide variety of subjects, you can pick and choose what you want to learn about.

### Cons

- Goes over a lot of topics that are not covered in STAT 350 or STAT 351.
- I have not watched all the videos so I can't speak to how helpful they all are.

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## R Tutorial – An Introduction to R in Book Format

<https://www.cyclismo.org/tutorial/R/index.html#>

**Overview:** This is a short book with 18 chapters about various subject in R. I think this can be more helpful if it's just used to look up specific topics instead of reading it all through. For instance, if you have questions about plotting or confidence intervals, you can just skip to those chapters and read about them.

### Pros

- Covers a decent number of topics in STAT 350 & 351.
- Can be used to quickly reference specific subjects.
- Teaches how to plot using base R (a lot of resources use packages instead).

### Cons

- It is a book, and even though the chapters aren't terribly long it does involve a fair amount of reading.
- Chapter names look slightly intimidating and more confusing than they need to be.

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## R for Data Science – A Comprehensive Online Book

<https://r4ds.had.co.nz/data-visualisation.html>

**Overview:** This is the book that I used to teach myself R, which is the main reason I'm including it here. It is very good, but it also gets into intermediate/advanced topics very quickly, not spending long on the basics. It also heavily relies on R packages, which is not something that gets taught in STAT 350 or STAT 351. This is definitely more for if you have the basics down and are wanting to learn better, faster, and dare I say cooler ways to do things in R.

### Pros

- Extremely comprehensive, covers a LOT of information and goes very in-depth to topics like plotting.
- Contains exercises at the end of each chapter if you want to practice what you've learned.
- What I used to teach myself R.

### Cons

- Not too helpful if you're wanting to learn the basics.
- Almost exclusively uses packages which are not used in STAT 350 or STAT 351.
- Very long.

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## R Note for Professionals – EXTREMELY Comprehensive Book on R

<https://goalkicker.com/RBook/>

**Overview:** If you thought the last book was long, it has nothing on this one. This behemoth is 475 pages and 127 chapters long. However, it covers pretty much everything you could ever want to know about R, so just hopping and searching for whatever you're stuck on will almost certainly come up with answers.

### Pros

- Covers pretty much every topic in R. If you're stuck on how to do anything just search it here and something will probably come up.

### Cons

- Very intimidating, just way too long.
- Can teach basics, but should probably only be used as a reference if you get stuck; the other materials are better at teaching basics.