FIRST MATE

Good day!

This is not your first voyage – we're glad you've signed up to sail with us.

We've curated some self-study resources to help you get started. These resources are divided into three sections:

Mandatory Sea Time: The Essentials

These resources contain information that is essential to getting started with R. For instance, if you don't know how to install packages or import data you won't get very far at all. These are items that are foundational to the self-study materials captured in the next section. Please review the description of each learning item to see if it covers information that is new to you, or information where you could use a refresher.

Swab The Decks: Foundational Concepts

These resources are required learning for this self study module. These items contain information that is foundational, along with practice, to becoming proficient in R. Please review the description of each learning item to see if it covers information that is new to you, or information where you could use a refresher.

There Be Treasure: Going Further

These are optional resources to help your further your R knowledge based on your own interest level. These items are foundational to becoming an absolute swashbuckler in R!

Mandatory Sea Time: The Essentials

Virtual Training with the Training and Development Unit

Duration: **5 minutes**

This video provides an overview of the Training and Development Unit's approach to training in the virtual environment: https://www.youtube.com/watch?v=lTDS6KgIGPg

Finding Success with Virtual Training

Duration: **4 minutes**

This video provides an overview of how learners can find success in virtual training with the Training and Development Unit: https://www.youtube.com/watch?v=CNo4rIg4nU8

Swab The Decks: Foundational Concepts

What is Data Wrangling?

Duration: **9 minutes**

Data wrangling is too often the most time-consuming part of data science and applied statistics. Two tidyverse packages, tidyr and dplyr, help make data manipulation tasks easier. Keep your code clean and clear and reduce the cognitive load required for common but often complex data science tasks. This video is the first in a series of four, reviewing concepts such as tibbles, viewing data, the pipe operator, and data wrangling generally.
https://www.youtube.com/watch?v=jOd65mR1zfw

R Markdown

Duration: **7 minutes**

This YouTube video provides a demo of R Markdown:
https://www.youtube.com/watch?v=DNS7i2m4sB0

Tidy data and tidyr

Duration: **18 minutes**

Data wrangling is too often the most time-consuming part of data science and applied statistics. Two tidyverse packages, tidyr and dplyr, help make data manipulation tasks easier. Keep your code clean and clear and reduce the cognitive load required for common but often complex data science tasks. This video is the second in a series of four, reviewing concepts such as tidy data and the tidyr package. https://youtu.be/1ELALQIO-yM

Data Manipulation Tools and dplyr

Data wrangling is too often the most time-consuming part of data science and applied statistics. Two tidyverse packages, tidyr and dplyr, help make data manipulation tasks easier. Keep your code clean and clear and reduce the cognitive load required for common but often complex data science tasks. This video is the third in a series of four, reviewing concepts such as the dplyr package, key functions for data manipulation, and how to chain statements together with the pipe operator: https://www.youtube.com/watch?v=Zc_ufg4uW4U

Troubleshooting

A few ways/resources for troubleshooting R issues:

- Every analyst has had the experience of hitting a wall when trying to code. What to do?
- R requires an almost detective-like attitude: the answer is out there online, you just need to sleuth it out.
- Some ideas:
    - Just plop your question, verbatim, into Google and see what you get. Include the package you're using and "R". Ex. "how to change legend name in ggplot2 in r". Try typing this in google. You should get a few excellent hits:

stackoverflow.com › questions › ho... ▼ Traduire cette page
How to change legend title in ggplot - Stack Overflow
14 août 2016 — If you were using **a** different type of plot where the code was **ggplot**(data, colour= cond), then you could use +labs(colour= "**Title Name**") . In ...
12 réponses

Editing **legend** (text) labels in **ggplot**   2 réponses   20 juill. 2016
How can I **change** the **title** of **a ggplot2 legend**?   4 réponses   27 sept. 2016
How to change labels (**legends**) in **ggplot**?   2 réponses   10 août 2020
Changing legend title ggplot   1 réponse   9 janv. 2020
Autres résultats pour stackoverflow.com

cookbook-r.com › Graphs › Legend... ▼ Traduire cette page
Legends (ggplot2) - Cookbook for R
Aller à **Changing** the factor in the data frame — There are two ways of **changing** the **legend title** and labels. The first way is to tell the scale to use have **a** ...
Solution · Changing the order of items ... · Modifying the text of legend ...

- Get comfortable searching **Stack Overflow**, and learning how to apply non-epi solutions to your epi problems.
- If you are using the tidyverse, there are a TON of resources, including Cookbook for R, R for Data Science, etc.

Tips:

1. Start your search statement with the software name (and version as needed)
2. Follow-up with question, function, or error message
   a. In relation to error messages, they are sometimes long and in such cases it may be most useful to take the more generic portions of the returned message
3. Identify and make note of sources/websites that keep popping up that have useful information, such as:
   - https://stackoverflow.com/
   - https://www.rdocumentation.org
   - https://www.tidyverse.org/
   - https://www.dummies.com/programming/r/r-for-dummies-cheat-sheet/
   - http://www.cookbook-r.com/
   - https://www.reconlearn.org/

   Tutorial on troubleshooting and common errors:
   https://ourcodingclub.github.io/tutorials/troubleshooting/

Common R Errors

This webpage reviews some errors that are commonly encountered when working with R. Some of the content of this page may be inaccessible to novice or beginner R users. If that is the case we recommend (1) a high level review of the webpage, and (2) filing the webpage away for later use as a resource in your R learning journey when these errors are encountered: https://www.programmingr.com/r-error-messages/

🧰 There Be Treasure: Going Further

- The Epidemiologist R Handbook: https://epirhandbook.com/

- R for Data Science: https://r4ds.had.co.nz/

- R Cheat Sheets: https://rstudio.com/resources/cheatsheets/

- YaRrr! The pirate's guide to R: https://bookdown.org/ndphillips/YaRrr/

- R Shiny Tutorials: https://shiny.rstudio.com/tutorial/

- Comprehensive R Archive Network: https://cran.r-project.org/

- REpidemics Consortium: https://www.repidemicsconsortium.org/projects/

- R4Epis: https://r4epis.netlify.app/

- PHAC R user group (note that this is available to PHAC employees only at this time and you will need to create an account or login with an existing account): https://message.gccollab.ca/channel/phac-r-user

- PopDataBC – Intro to R Studio for SAS Users: https://www.popdata.bc.ca/etu/online_courses/STAN104

- PopDataBC - Data Management and Cleaning for Analysis with R: https://www.popdata.bc.ca/etu/online_courses/STAN106

- A comprehensive introduction to handling date and time in R: https://blog.rsquaredacademy.com/handling-date-and-time-in-r/

- Regular tips, tricks, and demonstrations of new packages: https://www.r-bloggers.com/

- Stack overflow: https://stackoverflow.com/

- Coursera - Introduction to Statistics and Data Analysis in R: https://www.coursera.org/specializations/statistical-analysis-r-public-health?recoOrder=1&utm_medium=email&utm_source=recommendations&utm_campaign=btfwMI53EeuiLbV1NbTVAw

(Note: if experiencing issues accessing a link by clicking on it, please try to troubleshoot via copy-paste into your browser.)