

What should you have learned?

Unit 1: Life is easy when using the right tools.

What do I need to work with R?

After this lecture you should be able to:

1. Understand why to use R.
2. How to install R and RStudio.
3. How to get help for R related questions.



Unit 2: In God we trust, all others must bring data.

How to load data?

After this lecture you should be able to:

1. Read and write data.
2. Do basic exploratory investigations of your data.
3. Connect to a database.



Unit 3: A picture is worth a thousand words. How to create a plot (Base R)?

After this lecture you should be able to:

1. Generate plots with base R.
2. Improve aesthetic features of the plot.
3. Save the plot.



Unit 4: There is always room for improvement. How to create even nicer plots (ggplot2)?

After this lecture you should be able to:

1. Understand the concept of `ggplot2` ("grammar of graphics").
2. Use color palette and theme option of `ggplot2`.
3. Get to know advanced plotting options.



Unit 5: Find the needle in a haystack.

How to use basic data manipulation techniques (select)?

After this lecture you should be able to:

1. Know the basic techniques of data manipulation.
2. Select by rows & columns.
3. Append and update rows & columns.



Unit 6: Get a high-level overview.

How to use basic data manipulation techniques (aggregate)?

After this lecture you should be able to:

1. Aggregate on datasets.
2. Understand advanced aggregating topics and chaining.
3. Select using an aggregating dimension.



Unit 7: Leverage synergies.

How to use basic data manipulation techniques (merge)?

After this lecture you should be able to:

1. Create inner joins.
2. Create full outer joins.
3. Create right and left outer joins.



Unit 8: Play with the Pros.

How to use SQL in R for data manipulation?

After this lecture you should be able to:

1. Understand the advantages of SQL.
2. Access SQL databases from your RStudio console.
3. Write SQL queries in R for data manipulation.



Unit 9: Don't lose control.

How to use conditional statements and loops?

After this lecture you should be able to:

1. Use if-else statements for conditioning in R.
2. Implement loops in R.
3. Understand advanced looping options such as apply and vectorization.



Unit 10: First be effective then be efficient.

How to use functions to automate things?

After this lecture you should be able to:

1. Understand the basic concept of a function in R.
2. Write your own function in R.
3. Understand and apply best practice standards for writing a function.



Unit 11: No data, no problem.

How to simulate data?

After this lecture you should be able to:

1. Automatically create sequences.
2. Simulate names and work with strings.
3. Create variables that follow specific distributions.



Unit 12: Make your code nice and shiny.

How to use R Notebooks?

After this lecture you should:

1. Know why and how to use R Notebooks.
2. Understand how to integrate Markdown and R Code.
3. Be aware of the advanced features R Notebooks offer.



Unit 13-14: Putting everything together.

How to use your new knowledge to develop a scoring model?

After this project you should:

1. Understand the concept of the RFM model.
2. Know how to apply your R skills to a real-world case.

