Introduction to R

Level: Foundation
Duration: 6 hours

In this course, you'll explore the versatility of R, a powerful language for statistical computing and graphics. Discover the benefits of using R and get started with the basics. Gain confidence with the user-friendly RStudio interface and learn fundamental R concepts. You'll also dive into the Tidyverse, a collection of packages for data storage, visualization, and manipulation. This course offers a solid foundation to kickstart your journey with R!

Course Outline

- Introduction to R:
  - Overview
  - Background
  - Features of the R statistical programming system
- Data entry:
  - Importing data
- Data types:
  - Numeric
  - Float
  - Binary
- R environment:
  - Introduction
  - Working directory
  - Creating/using scripts
  - Saving data and results.
- R graphics:
  - Brief introduction to {ggplot2}
  - Creating, editing and storing graphics
- Summary statistics:
  - Measures of location and spread
- Manipulating data in R:
  - Describing how data can be manipulated using logical operators and {dplyr}
- Vector operations:
  - Details of R's vectors operations

Learning Outcomes

Session 1

By the end of session 1, participants will...

- have a clear understanding of R/RStudio IDE and its background.
- be familiar with navigating the RStudio IDE.
- understand the core fundamentals of R.
- understand functions and arguments.
- be able to create vectors and applying functions.
- be exposed to the tibbles and {tidyverse} package.

Session 2

By the end of session 2, participants will...

- be able to comfortably import, export, and store data in R.
- have a basic introduction to graphics with {ggplot2}.
- have a basic understanding of manipulating data manipulation with {dplyr}.
- understand logical and relational data partitioning.

This course does not include:

- An advance usage of {ggplot2}.
- Advanced data analyses, wrangling and manipulation techniques. For data cleaning and manipulation see our Data Wrangling with Tidyverse course.
- A description of automated reporting using R Markdown, see our course Reporting with R Markdown.

Prior Knowledge

No prior programming knowledge of any kind is assumed. This course is suitable for all fields of work. Previous attendees include biologists, statisticians, accountants, engineers & students, i.e., anyone who uses a spreadsheet!

Attendee Feedback

- "John spoke at a nice pace which allowed me to digest what was being said/keep up; regular breaks - to keep the brain alert (or at least helped!!)"
- "Very interesting course and plenty of resources to look into"
- "Highly knowledgeable trainers"
- "Flowed well, easy to follow, and clear instructions"
- "Our instructor Theo was great, I had never used R and was able to keep up with everything going on"

Contact

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