

Introduction to R

Dates: 21-25 September 2026

Time:

21/9 14:00 -16:00

22/9 14:00 -16:00

23/9 14:00 -16:00

24/9 14:00 -16:00

25/9 11:00-13:00

Room: Sala del Capitolo

Instructor: Kirill Melnikov, PhD Researcher at EUI SPS (4th year)

Contact: Monika.Rzemieniecka@eui.eu & kirill.melnikov@eui.eu

Workshop Overview

- This workshop is intended for beginners or those with only a little experience using R.
- Its goal is to help participants get comfortable working in RStudio and learn the basics of statistical programming.
- We will cover how to work with R objects (like vectors and data frames), do data manipulation, run basic analyses, create visualizations, and follow good coding practices in R.

For extra reading beyond the course slides, you may find the free online book *R for Data Science* (by Hadley Wickham, chief scientist at Posit, the company behind RStudio) very helpful: <https://r4ds.hadley.nz>. You can also consult *Doing Data Science in R: An Introduction for Social Scientists* by Mark Andrews, which is available in the library. Finally, you can explore a collection of useful R package cheat sheets here: <https://posit.co/resources/cheatsheets/>.

Workshop Format

Each session will mix short lectures with hands-on practice. Please bring your own laptop with R and RStudio installed so you can follow along.

Setup Before the Workshop

To take part, you'll need both R and RStudio installed on your computer. If you don't already have them, you can download them here:

- R: <https://cran.r-project.org/>
- RStudio: <https://posit.co/products/open-source/rstudio/>

Course Structure:

Day 1 (Monday, 21 Sep): Getting Started with R & RStudio

We'll begin with an introduction to the RStudio environment and the basics of R. This includes understanding the layout, using simple commands, working with objects (vectors, data frames, lists), and learning how to write and run scripts.

Day 2 (Tuesday, 22 Sep): Working with Data

This session will cover how to import data, clean it, and prepare it for analysis. We'll practice indexing, subsetting, filtering, summarizing, and reshaping data. Along the way, we'll get to know the **tidyverse**, a collection of powerful packages for data wrangling.

Day 3 (Wednesday, 23 Sep): Descriptive Analysis & Data Visualization We'll move on to exploring and describing data. Topics include summary statistics, cross-tabulations, and basic visualization techniques. We'll use **ggplot2** to create bar charts, line graphs, and scatter plots, focusing on how to communicate findings clearly for social science research.

Day 4 (Thursday, 24 Sep): Introduction to Modeling

This session introduces simple statistical modeling in R. We'll cover correlations, linear regression, and model interpretation — with a focus on examples from political science (e.g., public opinion, voting, or survey data).

Day 5 (Friday, 25 Sep): Reproducible Documents and Presentations

The final session introduces Quarto, a system for combining text, code, and results in a single document. We will produce an HTML report and a reveal.js presentation from the same source and discuss how this workflow supports reproducible research — for term papers, conference slides, and eventually the thesis.