

R COURSE



Syllabus, installation and reading

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Syllabus

Basics of R

- [01 - Introduction to R](#)
- [02 - Data wrangling](#)
- [03 - Data visualisation](#)
- [04 - Markdown and Quarto](#)

Metabarcoding

- [metaPR2](#)

Installation

R and editors

- [R](#)
- [R studio](#)
- [Quarto](#)
- [VSCode](#)

Install tutorial files

- Download [Data folder](#)
- Unzip on your Desktop
- Open R studio
- Directories:
 - scripts
 - data
 - report-quarto : example of a report built with quarto

Installation

Install R packages

Copy the following lines in the Console (bottom left panel) and press RETURN

```
# Data manipulation
install.packages("readxl")  # Reading Excel files
install.packages("readr")  # Reading and writing Text files
install.packages("rio")    # Import and export a range of files format
install.packages("dplyr")  # Filter and reformat data frames
install.packages("tidyr")  # Make data "tidy"
install.packages("tibble") # Manipulate data frames
install.packages("stringr") # Manipulating strings

# Graphics
install.packages("ggplot2")
install.packages("patchwork")

# Markdown
install.packages("markdown")
install.packages("tinytex")

# Display tables
install.packages("DT")
```

Installation

MetaPR2 package

Install as an R package (You will be asked to install other packages that are required).

There are two options:

1. From Github

```
install.packages("devtools")

devtools::install_github("manutamminen/blaster")
devtools::install_github("pr2database/metapr2-shiny")
```

2. From R-universe

```
options(repos = c(
  pr2database = 'https://pr2database.r-universe.dev',
  CRAN = 'https://cloud.r-project.org'))

install.packages('metapr2')
```

Once the package is installed, you can run it under R or R studio

```
metapr2::run_app()
```

Note: You can also run metaPR2 from the web site <https://app.metapr2.org> but only use if you really cannot install the R package because too many users will make the website crash.

Reading material

Session 01-03 - Data analysis

Choose one of the two text below. Make sure you make the exercises.

- [Statistical Inference via Data Science](#)
 - Chapters 1 to 3
- [R for Data Science - 2nd edition](#)
 - Chapters 1 to 5
 - [Solutions to exercises - for 1st edition](#)

Session 04 - Rmarkdown and Quarto

- [Intro to R markdown](#)

Metabarcoding

- [metaPR2 paper](#)

