

# Reproducible documents with {rmarkdown}

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The rmarkdown package provides an ecosystem for authoring documents that contain text as well as R code and its output. It is a very powerful tool for researchers using R for data analysis because it directly integrates the analysis results into reports, research papers, presentation and many other formats. All this without copy pasting, therefore creating a completely reproducible workflow.

## Workshop description

In 2 (or 3) afternoon sessions we will cover the following topics:

- Introduction to the {rmarkdown} package
- Structure of an rmarkdown document (Syntax, Options, R code)
- Use cases, e.g.
- Parameterized lab reports
- Computational notebooks
- Reports and manuscripts
- Bring your own data (optional on 3<sup>rd</sup> workshop day)

The main goal of this workshop is to give you the basic skills that you need to start writing your own reproducible documents according to the needs of your research. Starting from this knowledge basis, you can confidently expand your rmarkdown skills to more complex document types and formats.

## Course outline and concept

The workshop consists of several input sessions, followed by practical exercises where you will create different rmarkdown documents yourself. The third workshop afternoon is optional. On this day, you can bring your own research data and apply the methods that you learned in the course to your own work. The course will be in English and will be in an online format.

## Prerequisites

This workshop is for people with prior experience in R and RStudio. Ideally, you have already completed an introductory R course. You don't need to be an R expert but you should be familiar with things like variables, function calls, basic data analysis (reading data, data frames, plotting) and you should be able to use basic RStudio functionality.

## Who is the instructor?

I am a scientific programmer at Freie Universität, working in the field of theoretical ecology. Rmarkdown is an integral part of my everyday workflow since many years and I love passing on my knowledge and enthusiasm about this great tool. I have already taught courses on statistics with R for biology master students and PhD students.

If you have any questions regarding the course, please don't hesitate to contact me via [selina.baldauf@fu-berlin.de](mailto:selina.baldauf@fu-berlin.de).