



## Course: Using R for Data Analysis

### What is R?

[R](#) is an open-source, free environment for statistical computing and graphics. It provides a large repository of statistical analysis methods, both classic and new. However, R has a steep learning curve, due partly to its using a command-line type of user interface, rather than the usual pull-down menus. This 4-day course aims at helping researchers climb this curve, enabling them to perform basic data analysis and graphic displays at the end of the course, as well as giving a platform from which they can deepen their R knowledge later on if necessary.

### Goals & Topics

After the course you will be able to:

- understand and write simple R programs
- use R to perform basic statistical analyses of your own data tables
- generate analysis reports from your own data in html or pdf formats, using [RMarkdown](#)

We will cover the following topics:

- R expressions and formula objects
- R data objects (vectors (arrays), data frames (tables), lists, matrices) creation and usage
- R functions for descriptive statistics and linear model fitting
- installing additional libraries
- histograms, scatter plots, boxplots (in pure R and elegant with [ggplot2 library](#))
- filtering, sorting, summarizing of a table; joining/merging multiple tables (with [dplyr library](#))

### Prerequisites

The course requires elementary statistics knowledge, but assumes no prior programming knowledge. Participants must bring their own laptops capable of running [R](#) and [RStudio](#). Please install R (from the Comprehensive R Archive Network-CRAN, for example from this [mirror](#)) and [download](#) and install RStudio before the course. Optionally, you may additionally [download](#) and install a console version of R.

### Course Lecturers

Prof. Jelle Goeman (LUMC)  
Szymon Kielbasa (LUMC)  
Ramin Monajemi (LUMC)  
Renee X. de Menezes (VUmc)

### Course costs

€ 200.00 (VUmc and LUMC researchers, exclusive 21% BTW)  
€ 400.00 (others, exclusive 21% BTW)

### Registration

Please scan a filled-in registration form found in <http://www.bigstatistics.nl/teaching/> and send it by email to [rcoursevumc2018@gmail.com](mailto:rcoursevumc2018@gmail.com) to register. As the number of participants is limited, we suggest those interested to register as soon as possible to guarantee a place.

**When:** 28<sup>th</sup>, 29<sup>th</sup>, 31<sup>st</sup> January and 1<sup>st</sup> February 2019, on all days from 9:00 until 17:00 unless otherwise agreed

**Course location:** VUmc, Hospital building, room De Waver (ZH -1 C 118.17), which is accessed via a staircase starting next to the Amstel room. There are directions to the Amstel room from the hospital's main entrance.