Course: Data Analysis & Visualisation Using R — credits: 5

Course code	BFVH24DAVUR
Name	Data Analysis & Visualisation Using R
Study year	2025-2026
ECTS credits	5
Language	English
Coordinator	M.E.F. Apol
Modes of delivery	Tutorial
Assessments	Data Analysis & Visualisation Using R - Other assessment

Learning outcomes

This module has the following learning outcomes:

1. You use the R programming language correctly and efficiently, including its data types, functions and flow control elements. You are able to find, evaluate and select relevant packages for your workflow.
1. You write functions and scripts according to development standards and practices of the R language.
1. You are competent with the tidyverse packages (ggplot2, tidyr, dplyr, readr, lubridate, stringr) and use these packages to create single-statement workflows.
1. You develop data explorations on multivariate tabular data, focusing on the purpose of the data (i.e. outcome variable). You preferentially make use of the *tidyverse* packages, or packages built on top of these.
1. You develop and implement scientifically correct data visualizations making use of *ggplot2* or packages extending this.
1. You use RMarkdown to create your exploratory data analyses (EDAs), reports and presentations.

Content

This course is an introductory course of the R programming ecosystem. You will learn the basics of programming in this language. Besides this, we will explore the most popular set of libraries, the *Tidyverse*. There are several foci in this course: (1) learning to program with R, (2) the concept of *literate programming*, in which you combine code, its output (often in the form of figures) and regular (formatted) text, (3) developing scientifically correct and attractive visualizations.
We assume basic knowledge of statistics (descriptive statistics, statistical tests such as t-test, basic plots such as box-plot) and of molecular biology, primarily the Central Dogma.

Included in programme(s)

LST Exchange Minor Data Science for the Life Sciences
Minor Data Science for the Life Sciences

School(s)

Institute for Life Science & Technology

share your talent. move the world.

Although every effort has been taken to ensure the accuracy of the information in the ECTS Course Catalogue, we cannot guarantee that the content and the information contained in it is always up-to-date, complete or true. Accordingly, no rights can be derived from the contents of the catalogue.