BIOF 339: Practical R

The goal of this course is to introduce biomedical research scientists to R as an analysis platform rather than a programming language. Throughout the course, emphasis will be placed on example-driven learning. Topics to be covered include: installation of R and R packages; command line R; R data types; loading data in R; manipulating data; exploring data through visualization; statistical tests; correcting for multiple comparisons; building models; and, generating publication-quality graphics. No prior programming experience is required.

INDIVIDUAL LAPTOP IS NEEDED FOR EACH CLASS.

Learning Objectives

- Run R GUI and make use of command line features, including command history and help pages
- Find and make use of the extensive libraries (R add-ons) available for analyzing biological and other forms of data
- Load, manipulate, and combine data to make it amenable to further analyses
- Visualize data with extensive graphics capabilities of R (including ggplot)
- Use appropriate statistical tests on data within R that will conform to standards expected in scientific journals

Credits: 2
Class Type: Graduate Course
Program: Bioinformatics and Data Science
Availability Fall 2021
Session Both Sessions