האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Data Analysis with R - 52414

Last update 23-03-2025

HU Credits: *2*

Degree/Cycle: *1st degree (Bachelor)*

Responsible Department: *Statistics*

Academic year: *0*

Semester: *2nd Semester*

Teaching Languages: *Hebrew*

Campus: *Mt. Scopus*

Course/Module Coordinator: *Or Zuk*

Coordinator Email: *or.zuk@mail.huji.ac.il*

Coordinator Office Hours: *Mon 10-11*

Teaching Staff:

Dr. Or Zuk

Course/Module description:

The course teaches principles of data analysis and statistical inference using computer, while learning and utilizing the statistical programming language R. The students will learn principles of computerized data analysis, visualization, simulations, and statistical inference

Course/Module aims:

1. Familiarize students with principles of data analysis and computerized statistical applications
2. To let students perform data analysis independently using the R language

Learning outcomes - On successful completion of this module, students should be able to:

- Prepare, summarize and present data files in the R environment to answer research questions
- Study probabilistic models using simulations in R
- Use computer experiments to evaluate statistical methods.

Attendance requirements(%):

0

Teaching arrangement and method of instruction: Online lectures or in class. Exercises and labs

Course/Module Content:

1.Introduction to interactive and reproducible research with R-markdown and github
2. Data manipulation
3. Table manipulation
4. Summaries and visuals for a single file
5. GGplot environment and Data-viz principles
6. The regression line and transformations
7. Files and strings
8. Sampling in R
9. Monte carlo (complex probability models)
10. Computer-assisted Inference

Required Reading:
None

Additional Reading Material:

Grading Scheme:
Home Exam % 75
Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 25 %

Additional information: