

The Hebrew University of Jerusalem

Syllabus

Computerized Analysis Visualization of Biologica - 81852

Last update 02-03-2022

HU Credits: 3

Degree/Cycle: 2nd degree (Master)

Responsible Department: Bio-Medical Sciences

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: Ein Karem

Course/Module Coordinator: Yoav Smith

Coordinator Email: yoavs@ekmd.huji.ac.il

Coordinator Office Hours: by appointment

Teaching Staff:

Dr. Yotam Drier,
Dr. Yoav Smith

Course/Module description:

Familiarity with tools enabling acquisition of data from variable scientific data sources (microarrays, images..) and their analysis for visualization, quantification and scientific interpretation.

Course/Module aims:

Provide students with tools for acquiring wide sources of scientific data and using a wide span of algorithms and methods for analysis, via a personal project carried out through the semester.

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

Ability to analyze bioinformatic data, images and other scientific data using statistical tools and advanced algorithms writing scripts in MATLAB.

Attendance requirements(%):

90

Teaching arrangement and method of instruction: Following an introduction to writing scripts in MATLAB and using MATLAB TOOLBOXES creating a personal project for analyzing visualizing and interpreting data.

Course/Module Content:

Week 1-3 familiarity with MATLAB and MATLAB TOOL BOXES
Week 4-end of semester: Creating a personal project synchronized with meeting with the teacher.

Required Reading:

Digital Image Processing Using MATLAB (DIPUM)
by Gonzalez, Woods, and Eddins, Prentice Hall © 2004
Paper per each project.

Additional Reading Material:

Exploratory Data Analysis with Matlab by Wendy and Angel Martinez, 2004

Course/Module evaluation:

End of year written/oral examination 0 %

Presentation 0 %

Participation in Tutorials 0 %

Project work 0 %

Assignments 0 %

Reports 0 %

Research project 100 %

Quizzes 0 %

Other 0 %

Additional information: