האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

DATA ANALYSIS FOR NEUROSCIENCE - 76984

Last update 05-08-2019

HU Credits: *2*

Degree/Cycle: *2nd degree (Master)*

Responsible Department: *Brain Science: Computation & Information Proc.*

Academic year: *0*

Semester: *2nd Semester*

Teaching Languages: *English*

Campus: *E. Safra*

Course/Module Coordinator: *Israel Nelken*

Coordinator Email: *israel@cc.huji.ac.il*

Coordinator Office Hours: *Appointments by email*

Teaching Staff:

Prof Israel Nelken
Mr. Nizar Abed
Mr. David Beniaguev

Course/Module description:
The course will provide knowledge and expertise in data analysis for neuroscience. It will include lectures and practical work in class.

Course/Module aims:
The course will provide basic expertise in understanding the structure of data, time and frequency representations, filtering, parameter estimations and basics of statistical evaluation approaches.

Learning outcomes - On successful completion of this module, students should be able to:
Describe random time series by their correlation structure and frequency content
Design and apply filters in the time and frequency domains
characterize repeated shapes using orthogonal decompositions
Identify parametric models and evaluate the significance of the estimated parameters

Attendance requirements(%):
100

Teaching arrangement and method of instruction: Lectures and practical class sessions

Course/Module Content:
Representation of time sequences in the time and frequency domains
Filtering in the time and frequency domains
Design of filters
Characterization of shapes by orthogonal decompositions (principal components and similar)
Formulation and identification of parametric models

Required Reading:
No

Additional Reading Material:

No

Course/Module evaluation:

End of year written/oral examination 0 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 70 %
Assignments 30 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information: