



The Hebrew University of Jerusalem

Syllabus

PHYSIOLOGY OF BEHAVIOR - 6145

Last update 14-10-2020

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Cognitive and Brain Sciences

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Dr. Galit Landshut

Coordinator Email: galit.landshut@mail.huji.ac.il

Coordinator Office Hours: Upon request.

Teaching Staff:

Dr. Galit Landshut

Course/Module description:

The course deals with physiological mechanisms underlying human behavior, from single cell level to higher neural circuits. In the course issues from neuroscience and behavioral research will be discussed: cells of the nervous system – their biological properties and functions, the electrical communication between cells, and the pharmacological aspects of neural communication. In addition, neural mechanisms of higher behavioural functions, such as sleep, emotion and learning, will be discussed. Finally, neural mechanisms underlying behavioural abnormalities, such as psychiatric disorders as schizophrenia and depression, will be presented.

Course/Module aims:

To impart basic knowledge of biological and physiological function of nerve cells.
To present the pharmacological basis of neural communication.
To introduce neural mechanisms underlying normal and abnormal human behaviour.

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

1. To describe the biological structure and physiological function of nerve cells.
2. To recognize chemicals involved in neural communication.
3. To explain neural mechanisms associated with complex behavior.
4. To identify abnormal physiological mechanisms related to abnormal behavior.
5. To be able to successfully deal with advanced courses in neuroscience.

Attendance requirements(%):

80

Teaching arrangement and method of instruction: Lectures and reading.

Course/Module Content:

1. Cells of the nervous system – biological and physiological characteristic of nerve and glia cells.
2. Electrophysiological aspects of neural communication.
3. Neuroanatomy.
4. Psychopharmacology.
5. Research methods in neuroscience.

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6. Vision – physiology of visual perception.
 7. Sleep – physiological mechanisms of normal and pathological sleep.
 8. Cellular mechanisms of learning and memory.

Required Reading:

Carlson N. R., *Physiology of Behavior*, Boston: Allyn and Bacon, 12th Edition, 2017

Kandel E.R. and Schwartz J. H., *Principles of Neural Science*, McGraw Hill Professionals, 5th Edition, 2013.

Additional Reading Material:

Articles - a list will be given during the semester.

Course/Module evaluation:

End of year written/oral examination 70 %

Presentation 0 %

Participation in Tutorials 0 %

Project work 0 %

Assignments 30 %

Reports 0 %

Research project 0 %

Quizzes 0 %

Other 0 %

Additional information: