

## The Hebrew University of Jerusalem

### Syllabus

# The Wonderful Connection between Brain and Mind - 51167

Last update 07-10-2019

HU Credits: 2

<u>Degree/Cycle:</u> 1st degree (Bachelor)

Responsible Department: Psychology

Academic year: 0

Semester: 1st Semester

<u>Teaching Languages:</u> Hebrew

Campus: Ein Karem

Course/Module Coordinator: Dr. Ravid Doron

<u>Coordinator Email: raviddor@gmail.com</u>

Coordinator Office Hours: Sunday, By appointment

#### **Teaching Staff:**

Dr. Ravid Doron

#### Course/Module description:

Understanding the principles of the health and illness brain in psychology and psychiatric. Moreover Understanding the nervous system – sensation, conduction and processing of sensory information; the influence of medication and drugs on the nervous system; sensory systems in the body: transduction and information processing principles; the autonomous system and hormonal mechanisms controlled by the brain

#### Course/Module aims:

Understand the brain function in the normal and abnormal and how we can rehabilitate the brain.

# <u>Learning outcomes - On successful completion of this module, students should be able to:</u>

Upon successful completion of the course, students will be able to:

- 1. Describe the different cells of the nervous system neurons and glial cells.
- 2. State the nervous system's protections, meninges, CSF
- 3. Describe the development of the nervous system
- 4. Describe the anatomic structure of the cerebral cortex and the function of its lobes.
- 5. Identify the brain structure in various sections (coronal, horizontal, sagittal).
- 6. Describe the function of the various sub-cortical areas and their role
- 7. Explain what will happen in case of various types of injuries in brain areas such as the cortex or sub-cortical areas.
- 8. Define sleep and why the body needs it.
- 9. Identify brain mechanisms responsible for sleep and wakefulness
- 10. Identify the most common sleep disorders prevalent in SWS and REM sleep.
- 11. Describe the biological basis of psychiatric disorders: schizophrenia ,depression and drug addiction

#### Attendance requirements(%):

80%

Teaching arrangement and method of instruction: Lecture

#### Course/Module Content:

- 1. The chemical synapse as a data processing source
- 2. Functional anatomy: development of the nervous system
- 3. Functional anatomy: the functions of cortical and sub-cortical regions in the brain
- 4. Structure and function of the peripheral nervous system
- 5. Transmitters, medication, drugs and toxins in the nervous system
- 6. Sleep and wakefulness: brain areas and the neurotransmitters involved in these mechanisms
- 7. Sleep disorders and their treatment
- 8. Psychopathological disorders: schizophrenia, depression and addictions

#### Required Reading:

PRINCIPLES OF NEURAL SCIENCE E.R. Kandel & J.H. Schwartz (fifth edition, 2013)

#### Additional Reading Material:

#### Course/Module evaluation:

End of year written/oral examination 100 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

#### Additional information:

the final grade is calculated as follows:

Final exam: 100%