האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

SPECIAL TOPICS IN NEURO-WELLNESS - 99806

Last update 15-08-2018

HU Credits: 2

Degree/Cycle: 2nd degree (Master)

Responsible Department: Occupational Therapy - Adv. Stud.

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: Mt. Scopus

Course/Module Coordinator: Dr. Mor Nachum

Coordinator Email: mor.nahum@mail.huji.ac.il

Coordinator Office Hours: By appointment

Teaching Staff:

Dr.

Course/Module description:

This advanced course is intended on providing theoretical and applicable knowledge on the topic of neuro-wellness. One of the critical components in understanding physiological and mental distress is understanding processes in the healthy brain, and knowing how to maintain those in good shape. Research in neuroscience has led to many advances in the field in recent years; these advances inform us on how the brain works and how we can maintain it in good health.
The course will review topics related to factors affecting mental resilience, focusing on underlying brain mechanisms.
We will critically review tools to study these mechanisms, and review strategies in academics and industry to preserve and reach neuro-wellness.

Course/Module aims:

Course goals are:
1. Gaining understanding in the various mechanisms and processes underlying brain health and mental resilience
2. Gaining knowledge that enables critical evaluation of current and future measures, technologies and data analysis in neuro-wellness.
3. Acquiring understanding in basic and applicable neuro-wellness science.
4. Exposing students to recent advances in neuro-wellness.

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

At the end of the course, the students would be able to:
1. Understand different tools and methods for neuro-wellness.
2. Understand how these tools can be harnessed towards their research work.
3. Understand the theoretical basis for neuro-wellness and mental resilience.
4. Critically assess the validity of different technologies for improving and preserving brain health.

Attendance requirements(%):

100

Teaching arrangement and method of instruction: Frontal lectures, discussion in class, guest lectures, presentation of materials by students

Course/Module Content:

1. Brain plasticity and brain change

2. Basic principles in Neurofeedback
3. Cognitive brain training games, VR, video games
4. Video games, ,action games, strategy games
5. Exergaming platforms
6. Emotion regulation, limbic system, emotional brain, mental resilience
7. Awareness and the self: mindfullness
8. Eye tracking tools to understand brain function
9. Tracking and monitoring brain health and resilience
10. Sleep and circadian rhythms
11. Reward system and brain health.
12. Immune system and the brain.

Required Reading:
Given separately

Additional Reading Material:
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Course/Module evaluation:
End of year written/oral examination 50 %
Presentation 40 %
Participation in Tutorials 10 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:
Course includes many guest lectures so participation and attendance are critical!