

COURSE UNIT INFORMATION SHEET (SYLLABUS)**2020/2021**

Name NEUROPSYCHOLOGY
Teaching staff (Also indicate the Professor in charge) Isabel Barahona da Fonseca (Professor in charge)
ECTS 6
Functioning A theoretical class for all course and practical-theoretical classes with a smaller number of students. The classes will be simultaneously presential and at distance via Zoom, with groups of students alternating their participation (presential or online) each week. If the distance learning will be obligatory, the classes will occur via zoom with the same schedule.
Learning goals • Developing a theoretical epistemic thinking about the application of neuropsychological principles and theories to the interpretation and study of the human processes considered in Psychological science. • Acquisition of basic and fundamental knowledge about behavior neuropsychology essential for a psychologist. Neurophysiological fundaments, neurochemical structures and functions are examined in relation to emotions, motivation, planning of behavior, learning and memory, perception, regulation and influences of brain rhythms namely circadian cycles, attention, language. The main neuropsychological syndromes, evaluation, neuro-rehabilitation and remediation treatments are mentioned aiming an integrate knowledge at a preclinical level.
Skills to be developed



Acquisition of theoretical knowledge that will allow the integration between psychological and physiological domains and prepare the students for practical applications in the diverse fields of Psychology and of Neuropsychology.

Prerequisites (precedences) *

Not applicable

Contents

Basic concepts and principles of Neuropsychology: experimental and clinical paradigms, study methods, and theoretical and clinical domains of Neuropsychology.

I. The structure and function of Nervous System (NS).

- The neuron, neuronal functioning as a signaling unit of the NS. Nerve cells, neural circuitry and behavior.

Neurotransmission, the first, second and third transmission messengers' systems.

- Synaptic Plasticity- neuronal circuitry, synaptic and molecular processes related to memory formation.

- The functional organization of the Central Nervous System (CNS). Parallel hierarchical, heterarchical and bottom up and top down organization.

- Neuropsychology of memory: systems and processes.

II. Neuropsychology of the main functional systems and neuropsychological syndromes related. – Brain control of behavior: movement. The Prefrontal Cortex and the regulation of behavior.

- The autonomic nervous system.

- The somatic sensory system.

- The auditory system.

- The visual system.

III. Neuropsychology of psychological functions and clinical syndromes.

- Rhythms of the brain. Circadian rhythms.

- Neuropsychology of attention

- Neuropsychology of emotion

- Neuropsychology of motivation

- Neuropsychology of language

IV. Clinical applications of Neuropsychology – introduction of psychological assessment in the context of diagnose, management and rehabilitation of neuropsychological dysfunctions.

Bibliography

BEAR M. F., CONNORS B. W., PARADISO M. A. (2017): Neurociência : Desvendando o Sistema Nervoso 4ª Ed, Trad. Artmed Ed, S. Paulo.

GAZZANIGA, M. S., IVRY, R. B., MANGUN, G. (2019): Cognitive Neuroscience. The biology of mind 5th Ed. WWNorton, New York.

KANDEL, E.R., SCHWARTZ, J.H., JESSELL, T. M., SIEGELBAUM S. A., A. J. HUDSPETH (2012): Principles of Neural Science and Behaviour 5 th. MCGRAW HILL, NewYork.

Teaching methods

Expositive in theoretical classes. In theoretical-practical classes the activities include demonstrations using videos of classic neuropsychology contents, either fundamental, interviews with reference authors, some clinical examples, and expositions of works done by groups of students.

The teaching methods will be presential and online and also, in case of distance learning is obligatory, the classes will occur at distance, via platform zoom with the previous schedule.

Evaluation Regimes (General and/or Alternative)

General

Evaluation Elements

(Dates due, weights, minimum required grades)

Evaluation will be made by an individual exam composed by multiple choice questions part and a last part with an open question with a development answer. This question is chosen among three questions. The multiple choice questions part include all subjects exposed in theoretical classes and have a weight of 70 % of the final classification. The development question has a weight of 30% of the final classification.

In case of Emergency State classes and oral presentations will continue as scheduled via Zoom UL platform and this individual exam will be adapted for online examination procedures.

**Rules for grade improvement**

Not applicable

Rules for students having previously failed the course unit *

Not applicable

Requirements on attendance and punctuality**Rules for special students**

(workers, elite athletes, student body leaders, military, fathers/mothers, with special needs) *

Language of instruction

Portuguese

Disciplinary violations and penalties

According to the Evaluation of Learning Regulation of the Faculty of Psychology of the University of Lisbon, the following behaviors are considered as disciplinary offenses subject to disciplinary action:

- a) To use or attempt to use materials, information, notes, study resources or other objects and equipment not authorized in academic exercises;
- b) To help or try to help a colleague in committing a disciplinary offense;
- c) To submit the same written work for evaluation in different course units without permission from the instructors, even if with minor changes;
- d) To present someone else's work as one's own;
- e) To forge, or change without permission from the author, any information or citation in an academic work;



- f) To interfere, change or attempt to change grades;
- g) To try to prevent or interfere with the proper functioning of classes, research or other academic activities;
- h) To make false accusations regarding instructors, governance bodies, other students or non-teaching staff of the FPUL;
- i) To falsify signatures in attendance sheets, documents relating to evaluation elements or in any official document relating to an academic process or status.

Disciplinary offenses committed in any assessment element can lead to its annulment, and must be reported to the Pedagogical Council or, considering their gravity and repetition, may lead to other penalties, to be determined by the Rector of the University of Lisbon.

* If applicable