



COURSE UNIT INFORMATION SHEET (*SYLLABUS*)

2021/2022

Study Programme Undergraduate Degree in Psychology

Name PSYCHOPHYSIOLOGY
Teaching staff (Also indicate the Professor in charge) Doutora Isabel Barahona da Fonseca (Professor in charge)
ECTS 6
Functioning Theoretical and Practical Classes, 2 nd Semester
Learning goals To acquire knowledge about the paradigms, methods and techniques of Human Psychophysiology essential for the preparation of future psychologists in the diverse domains of application. Acquiring and training of inferential reasoning skills, of critical and epistemic reflection of scientific papers. Interpretation of empirical data that involve the relationship between physiological and psychological variables. Introducing knowledge of the main indicators and techniques of psychophysiological measures and their physiological bases, procedures for recording, signal processing and interpretation. The objectives are broad and aim the acquisition of knowledge about the psychophysiological correlates of the main processes studied in Psychology, with emphasis on cognition, emotional and affective processes, memory, attention, language and applications in the psychopathological clinic and intervention methods by biofeedback. Introducing to experimental planning and laboratory practice techniques of monitoring physiological activity through the EEG and ERPs.
Skills to be developed Understand the epistemic problems in experimental planning of an integration between physiological and psychological



data at the level empirical studies. The emphasis will be on experimental planning, data analysis and theoretical inferences and also on the applications – clinical and other domains.

To be able to interpret the relationship between the variables of the psychological domain and those of the physiological domain, taking into account the nature of the psychological characteristics of the process under study, the physiological system, and the technical recording.

Reference to clinical observation, diagnosis, prognosis and treatment in order to introduce students to the clinical applications.

Prerequisites (precedences) *

Not applicable.

Contents

1 Introduction of fundamental physiological concepts about the structure and function of the Nervous System. The central and peripheral body systems.

2 Paradigms, methods and techniques of Psychophysiology research. The relationship between physiological and psychological variables. Invasive and non-invasive physiological recording systems.

3 Psychophysiological indicators (central and peripheral with reference to physiological systems and mechanisms of physiological response generation) of the main psychological functions: attention, perception, motivation, memory, emotion, language. The contributions of combining technics such as MRIf, EEG, TMS and Genetics.

4 Introduction to the clinical applications of Psychophysiology in biofeedback training. Scientific criteria and methods of evaluation of these clinical applications.

5 Introduction of the psychophysiological studies of psychopathological disorders and neuropsychological syndromes.

Bibliography

Specific references will be indicated in classes.

Andreassi, J. L. (2017). *Psychophysiology, human behavior and physiological response* (5th Ed.), Routledge.

Caccioppo, J. T., Tassinary, L. G., Bernston, G. G. (2017). *The Handbook of Psychophysiology* (3th Ed.), Cambridge U.P.

Kandel, E.R., Koester, J.D., Mack, S. H., Siegelbaum, S. A. (2021). *Principles of neural Science* (6th Ed.), New York: Mcgraw Hill.

Schwartz, M. S. & Andrasik, F. (2016). *Biofeedback a practitioner's guide*. Guilford Press.

Teaching methods

Theoretical lecture for the course and practical-theoretical classes where in small groups students will present and debate scientific papers and also, when possible, practical laboratory sessions for observing research



methods of Nervous System activity (central measures such as EEG and ERPs and also peripheral indicators such as EDR and ECG available at the Faculty of Psychology).

Evaluation Regimes (General and/or Alternative)

General.

Evaluation Elements

(Dates due, weights, minimum required grades)

Three elements:

- A presentation by a group of students about scientific papers during the classes (25% of the final classification)
- A test consisting of questions about the domain of Psychophysiology and methodological issues with the use of the references (25% of the final classification).
- An individual written work (the theme is optional and must adopt the Psychophysiology approach – 50% of the final classification).

Rules for grade improvement

General Regulations for the Assessment of Students' Knowledge and Skills

Rules for students having previously failed the course unit *

General Regulations for the Assessment of Students' Knowledge and Skills

Requirements on attendance and punctuality

Not applicable.

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