SCHOOL OF EDUCATIONAL SCIENCES AND SOCIAL SCIENCES
DEPARTMENT OF PSYCHOLOGY AND SOCIAL WORK

(CIP file- Classification of instructional programmes)

Course unit title:	**Neuropsychology Laboratory**
Course unit code:	**WPSY303**
Type of course unit:	**CORE**
Level of course unit:	**DEGREE**
Year of study:	**4th**
Semester when the unit is delivered:	**WINTER**
Number of ECTS credits allocated :	**6**
Name of lecturer(s):	**MARIOS KITTENIS**
Learning outcomes of the course unit:	It is expected that upon completion of the lecture series students will be able to: 1. Know the historical development of the science of Neuropsychology and the technological methods for studying the neurophysiology of cognition. 2. Understand the basic functions of the nervous system 3. Understand the interaction between physical and psychological functions in humans and animals. 4. Know the main methods of measuring basic psychophysiological functions (e.g. Electromyography, Electroencephalography, Electrodermal activity, Respiratory activity, Electrocardiography) 5. Become capable of practically applying the techniques, knowledge and skills that will be acquired within the course. 6. Be able to discuss questions regarding the nature of the relationship between mind and body, as studied in philosophy, psychology, physiology & medicine. 7. Understand the neurophysiological mechanisms involved in psychological, emotional and cognitive functions. 8. Understand the symptoms observed in various neuropsychological disorders and learn about methods of diagnosis through psychophysiological measurements.
Mode of delivery:	• Lectures, with the assistance of audio-visual media (PowerPoint presentations) • Screening of short documentaries • Group and individual assignments • Laboratory activities with the participation of students • Learning practical use of laboratory equipment by students • Presentations of student work.
Prerequisites:	None		

Course contents:	1. Introduction to EEG and Neuropsychology: Overview of EEG and its history. Basic principles of electrophysiological recording and analysis. Overview of neuropsychology and its relationship to EEG.
	2. Techniques and Methods: EEG recording techniques and equipment. Pre-processing and artifact correction techniques. Time-frequency and spatial analysis techniques.
	3. Clinical Neuropsychology and EEG: Overview of clinical neuropsychology. EEG in the diagnosis and assessment of neurological and psychiatric disorders. EEG in the evaluation of brain function and cognition.
	4. Cognitive Function: EEG measures of attention and memory. EEG in the study of language and perception. EEG & electrodermal measures in the study of emotion and motivation.
	5. Psychopathology: EEG and electrodermal measures in the study of mood and anxiety disorders. EEG in the study of neurodevelopmental disorders
	6. Advanced Topics in EEG and Neuropsychology: EEG in the study of sleep and dreaming. EEG and electrodermal measures in the study of pain and substance abuse. EEG and other psychophysiological measures (eye-tracking) in the study of brain-computer interfaces and neurofeedback.
	7. Ethics and Practical Issues: Ethical considerations in EEG research. Practical and reliability issues in EEG data collection and analysis. Future directions for research and applications.
	8. Summary of key concepts and techniques covered in the course. Discussion of current and future trends in EEG and neuropsychology research. The implications of EEG and other neurophysiological research methods for our understanding of brain function and cognition.
Recommended and/or required reading:	• Albani M. & Kimiskidis, V.K. (2017). *Clinical Neurophysiology*. Selected chapters from the book: *Bradley's Neurology in Clinical Practice*, 7th edition. University Studio Press, Thessaloniki.

• Martin G.N., (2010). *Neuropsychology: brain and behavior*, Edited by Greek edition: N. Marathevtis, Parikos publications.

• Johnstone B., Stonnington H.H., (2006). *Cognitive rehabilitation of neuropsychological disorders*, Edited Greek edition: L. Messinis, A. Kastellakis, Filomathia Publications.

• Kazis, A.D. (1989). *Clinical Neurophysiology*. University Studio Press, Thessaloniki.

• Zacharakis, G. & Scott, D. (1997). *Introduction to Clinical Electroencephalography: General Principles, Interpretation, Development*. University Studio Press, Thessaloniki. |
| Planned learning activities and teaching methods: | • Lectures accompanied by visual material (PowerPoint presentations).
• Laboratory practice: Working in small groups to practice technical skills
• Short student assignments: Presentation of chosen topics with class discussion |
| Assessment | I. Physical presence in the course – necessary |

methods and criteria:	II. Carrying out practical tasks assigned in the laboratory and participating in the discussions [10%]
	III. Written summary of laboratory tasks & results [20%].
	IV. Submit summary/proposal of written assignment [10%]
	V. Class presentation of individual work [10%]
	VI. Submit written assignment [50%]
Language of instruction:	GREEK
Work placement(s):	NONE