

## NEUROANATOMY-NEUROPHYSIOLOGY

### (1) GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>ACADEMIC UNIT</b>	SPEECH AND LANGUAGE THERAPY		
<b>LEVEL OF STUDIES</b>	Undergraduate Programme (level 6)		
<b>COURSE CODE</b>	slt – 22	<b>SEMESTER</b>	2
<b>COURSE TITLE</b>	Neuroanatomy-Neurophysiology		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
Lectures		2	5
Applied practice		1	
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	General background		
<b>PREREQUISITE COURSES:</b>			
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek & English		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>	<a href="https://moodle.ioa.teiep.gr">https://moodle.ioa.teiep.gr</a>		

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b>  <i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i>  <i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <li>• <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i></li> <li>• <i>Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i></li> <li>• <i>Guidelines for writing Learning Outcomes</i></li> </ul>
<p>This course is the basic introductory course in the anatomy and physiology of the human nervous system. It gives special emphasis in brain's anatomy and physiology as the strategic organ for speech, language, communication and swallowing.</p> <p><b>Upon successful completion of the course students will be able to:</b></p> <ul style="list-style-type: none"> <li>- recognize and describe the basic characteristics of structure and function of neuron, synapses, and the neurotransmission (levels 1-3).</li> <li>- Understands and describes the macroscopic and architectural structure of central nervous system, and especially of brain (levels -3).</li> <li>- Distinguish and recognize the basic functions delivered by the nervous system (levels 1-3)</li> <li>- Be aware of functional organization of nervous system, of functional tracts, and networks (1-3)</li> <li>- Work/collaborate with other students and experts in projects illuminating further brain's structural and functional properties (levels 1-3).</li> </ul>
<p><b>General Competences</b>  <i>Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?</i>  <i>Search for, analysis and synthesis of data    Project planning and management</i></p>

<i>and information, with the use of the necessary technology</i>	<i>Respect for difference and multiculturalism</i>
<i>Adapting to new situations</i>	<i>Respect for the natural environment</i>
<i>Decision-making</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>
<i>Working independently</i>	<i>Criticism and self-criticism</i>
<i>Team work</i>	<i>Production of free, creative and inductive thinking</i>
<i>Working in an international environment</i>	.....
<i>Working in an interdisciplinary environment</i>	<i>Others.....</i>
<i>Production of new research ideas</i>	

- *Search for analysis and synthesis of data and information, with the use of the necessary technology*
- *Adapting to new situations*
- *Decision-making*
- *Working independently.*
- *Team work*
- *Working in a interdisciplinary environment*
- *Production of new research ideas*

### (3) SYLLABUS

- I. Introduction to nervous system
- II. The neuron as structural and functional unit of nervous system - non-neuronal cells in the central nervous system
- III. Neurotransmitters, Synapses, and Impulse Transmission
- IV. The spinal cord
- V. Descriptive neuroanatomy of brain (meninges, ventricles, and the cerebrospinal fluid)
- VI. Blood supply of the brain – arterial circle
- VII. The cranial nerves
- VIII. The cerebral hemispheres: descriptive neuroanatomy (the cortex, grey and white matters, deep brain structures, and the basal ganglia)
- IX. Functional neuroanatomy of cerebral hemispheres
- X. Neural tracts: pyramidal, somatosensory, visual and central acoustic
- XI. Functional neuroanatomy of speech, language and communication
- XII. Functional neuroanatomy of swallowing and eating

### (4) TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face” in class	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of audio-visual methods (i.e. powerpoint presentations), Support of learning process through the e-class platform	
<b>TEACHING METHODS</b> <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i>  <i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	26
	Applied practice	13
	Teamwork research project	25
	Essay writing	18
	Personal study/evaluation	43
	Course total	<b>125</b>

<p><b>STUDENT PERFORMANCE EVALUATION</b>  <i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>I. Written intermediate exam after the 6<sup>th</sup> semester week (20%), optional.</p> <p>II. Written final Exam (60 to 100%) consisting of:</p> <ul style="list-style-type: none"> <li>- multiple choice questions</li> <li>- short answer questions</li> <li>- critical view of theory</li> </ul> <p>III. Written essay – individual (20%)</p> <p>IV. Oral exams instead of written</p> <p>The final exams will be offered in Greek &amp; English</p>
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**(5) ATTACHED BIBLIOGRAPHY**

- *Suggested bibliography:*

1. Waxman S. Κλινική Νευροανατομία, Εκδόσεις Broken Hill Publishers, ISBN: 978- 960-489-200-6.
2. FitzGerald Turlough M. J., Gruener Gregory, Mtui Estomih : Κλινική νευροανατομία και νευροεπιστήμες (2009), ISBN: 9603998426.
3. Νάσιος, Γ., Ζιάβρα, Ν., & Παπαδημητρίου, Ε. (2011). *Netter's Εικονογραφημένο Εγχειρίδιο Ανατομίας, Λόγου, Κατάποσης και Ακοής*. D.H., McFarland, Γενική Επιμέλεια της Ελληνικής Έκδοσης. Ιατρικές Εκδόσεις Πασχαλίδη.
4. Elizabeth Johnson : Νευροανατομία. Εκδόσεις Κωσταντάρα, 2012.
5. Michael Schuenke, Erik Schulte, Udo Schumacher, Lawrence Ross, Edward Lamperti, Voll Wesker (2010). *Head and Neuroanatomy (THIEME Atlas of Anatomy)*. Thieme

- *Related academic journals:*

- *Frontiers in Neuroanatomy* (<https://www.frontiersin.org/journals/neuroanatomy>)
- *Neuroanatomy* (<https://neuroanatomy.org>)
- *Journal of Neurophysiology* (<https://www.physiology.org/journal/jn>)