COURSE OUTLINE

(1) GENERAL

SCHOOL	
ACADEMIC UNIT	**Interdisciplinary Graduate Programme in the BRAIN and MIND sciences**
LEVEL OF STUDIES	
COURSE CODE	B&M-240 SEMESTER **Fall**
COURSE TITLE	Introduction to Neuroanatomy

INDEPENDENT TEACHING ACTIVITIES *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*	WEEKLY TEACHING HOURS	CREDITS
lectures	6	3
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	General Background
PREREQUISITE COURSES:	N/A
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek/English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	

(2) LEARNING OUTCOMES

Learning outcomes *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.* *Consult Appendix A* • *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area* • *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B* • *Guidelines for writing Learning Outcomes*

By the end of this course, students will be able to:

1. **Understand the basic organization of the nervous system**

   - Identify the major sulci, gyri, and lobes of the brain and describe their functions.
   - Differentiate between the central and peripheral nervous systems, including the autonomic subdivisions.
   - Recognize basic neuroanatomical structures in imaging modalities such as CT and MRI.

2. **Describe the structure and function of key neuroanatomical regions**

- Explain the gross anatomy and internal organization of the **diencephalon** and **basal ganglia** and their roles
- Identify the components of the **limbic system** and describe their role
- Describe the structure of the **brainstem, cerebellum, and spinal cord**, including major neural tracts.

3. **Analyze the cranial nerves and neurovascular structures**

- Identify the **12 cranial nerves**, their nuclei, and their functional roles.
- Explain the **blood supply of the brain and spinal cord**, including the **circle of Willis** and the concept of the **blood-brain barrier**.
- Describe the **meninges, ventricular system, and cerebrospinal fluid circulation** and their roles.

4. **Relate neuroanatomy to neurological disorders**

- Associate specific brain regions with neurological conditions, such as:
  - **Hippocampus and memory disorders** (e.g., patient H.M. and amnesia).
  - **Frontal lobe and personality changes** (e.g., Phineas Gage case study).
  - **Neurodegenerative diseases** such as Alzheimer's and Parkinson's disease.
  - **Stroke syndromes** and their neuroanatomical correlates.

5. **Develop foundational skills for clinical and research applications**

- Interpret neuroanatomical structures in clinical imaging and relate them to patient cases.
- Apply anatomical knowledge to understand the neurological basis of movement, sensation, cognition, and behavior.

Upon successful completion of the course, students will be able to:
- Demonstrate a comprehensive understanding of the course material.
- Understand the fundamental theories, concepts, and principles governing neuroanatomy
- Reproduce acquired knowledge and effectively communicate it in a clear and unambiguous manner to both specialized and non-specialized audiences.

General Competences

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?

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

- Search for, analysis and synthesis of data and information, with the use of the necessary technology

- Working independently
- Production of new research ideas
- Production of free, creative and inductive thinking

(3) SYLLABUS

- Introduction to the nervous system. Gross anatomy.
- Diencephalon and Basal Ganglia
- Limbic system
- Brainstem, cerebellum, spinal cord
- Cranial nerve nuclei, Blood supply of the brain and spinal cord, Meninges, Ventricular system, Subarachnoid space and cerebrospinal fluid
- Revision

(4) TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>**DELIVERY**
Face-to-face, Distance learning, etc.</td><td colspan="2">Face-to-face</td></tr>
<tr><td>**USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY**
Use of ICT in teaching, laboratory education, communication with students</td><td colspan="2">Integration of ICT in teaching
Utilizing the elearn platform for uploading teaching materials
Communication via "e-learn" and e-mail</td></tr>
<tr><td rowspan="2">**TEACHING METHODS**
The manner and methods of teaching are described in detail.
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.

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</td><td>*Activity*</td><td>*Semester workload*</td></tr>
<tr><td>Lectures

Course total</td><td>12

12</td></tr>
<tr><td>**STUDENT PERFORMANCE EVALUATION**
Description of the evaluation procedure

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

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td colspan="2">Evaluation Language: Greek/English
Assessment Methods: Multiple-choice questionnaires, short-answer questions
Written exam (oral examination available in special cases)

Evaluation criteria are outlined in the study guide and communicated to students at the beginning of the course.</td></tr>
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(5) ATTACHED BIBLIOGRAPHY

- **Suggested bibliography:**
- **Clinical Neuroanatomy, Snell**
- **Kenhub**