1. BASIC INFORMATION

Subject	Human Anatomy
Degree	Psychology
School	Biomedical and Health Sciences
Year	1st
ECTS	6
Credit type	Basic
Language/s	English
Delivery mode	Presential
Semester	1st
Academic year	2025-2026
Coordinating professor	Antonio Ballesta García
Profesor	Cristina Bonet, Raquel Santos

2. PRESENTATION

In line with one of the general objectives of the University, which is to train professionals, knowledge of anatomy is essential to understand the language of health. In this subject, students will be able to understand, analyze and explain the human anatomy of the central and peripheral nervous system. This will be the basis for understanding: 1) The anatomical organization and functionality of the nervous system and 2) the etiopathogenesis of the main neurological and psychiatric diseases.

3. LEARNING OUTCOMES

Knowledge

KN08: Characterize the different attentional networks, their neuroanatomical bases, the experimental paradigms responsible for their evaluation and the different neuropsychological diagnoses associated with them

- Describe anatomical structures that underpin psychological processes
- Describe the neuroanatomical basis of sensory, motor, cognitive, emotional, and motivational processes
- Identify the different components of the Peripheral Nervous System involved in psychological processes
- Describe protection and support systems (bones, meninges, irrigation, ventricular system)
- Identify the relationship between anatomofunctional alterations and psychopathologies

Skills

SK07: Analyze the contribution of biological, cultural, and psychosocial foundations in the development of psychological differences in both individuals and groups

- Analyze the different components of the Central Nervous System involved in psychological processes

Competences

COMP02: Know the basic laws of the different psychological processes in the field of Health Psychology
COMP03: Know the main processes and stages of psychological development throughout the life cycle in its aspects of normality and abnormality in the field of Health Psychology
COMP04: Know the biological foundations of human behavior and psychological functions
COMP13: Be able to describe and measure variables (personality, intelligence and other aptitudes, attitudes, etc.) and cognitive, emotional, psychobiological and behavioural processes
COMP14: Be able to identify differences, problems and needs
COMP32: Be able to measure and obtain relevant data for the evaluation of interventions
COMP36: Know and adjust to the deontological obligations of Psychology

4. CONTENTS

The subject is organized into four thematic blocks, which, in turn, are divided into Units:

THEMATIC BLOCK I: Introduction to the study of the nervous system

Unit 1. Introduction to the study of the Nervous System.

- 1.1. Concept of anatomy.
- 1.2. Anatomical nomenclature. Planes and axes.
- 1.3. Development of the nervous system.

THEMATIC BLOCK II: Structure, circuits and functions of the forebrain, middle and posterior brain

Unit 2. General organization of the NHS and other related systems

- 2.1. General anatomy of the nervous system.
- 2.2. Bone and meningeal coverings.
- 2.3. Ventricular system. CSF: Choroid plexus
- 2.4. Vascularization of the brain.

Unit 3. Cerebral hemispheres.

- 3.1. External anatomy: grooves, fissures and convolutions.
- 3.2. Cerebral cortex. Functional organization.
- 3.3. White matter of the cerebral hemispheres.
- 3.4. Clinical considerations.

Unit 4. Basal nuclei.

- 4.1. Introduction.
- 4.2. Anatomical organization.
- 4.3. Anatomical-functional organization.
- 4.4. Clinical considerations.

Unit 5. Diencephalon.

- 5.1. Introduction.
- 5.2. Anatomical organization.
- 5.3. Anatomical-functional organization.
- 5.4. Clinical considerations.

Unit 6. Limbic system.

- 6.1. Introduction.
- 6.2. Anatomical organization.
- 6.3. Anatomical-functional organization.
- 6.4. Clinical considerations.

Unit 7. Brainstem.

- 7.1. Introduction.
- 7.2. Anatomical organization.
- 7.3. Anatomical-functional organization.
- 7.4. Clinical considerations.

Unit 8. Cerebellum.

- 8.1. Introduction.
- 8.2. Anatomical organization.
- 8.3. Anatomical-functional organization.
- 8.4. Clinical considerations.

THEMATIC BLOCK III: Structure, circuits and functions of the spinal cord

Unit 9. Spinal cord.

- 9.1. Introduction.
- 9.2. Anatomical organization.
- 9.3. Anatomical-functional organization.
- 9.4. Clinical considerations.

THEMATIC BLOCK IV: Structure, circuits and functions of the peripheral nervous system

Unit 10. Peripheral nervous system.

- 10.1. Introduction.
- 10.2. Anatomical organization.
- 10.3. Autonomic Nervous System.

Unit 11. Major pathways of the central nervous system.

- 11.1. Ascending routes.
- 11.2. Descending routes.

Unit 12. Sensory systems

- 12.1. Visual system
- 12.2. Auditory and Vestibular System.

5. TEACHING-LEARNING METHODOLOGIES

The following are the types of teaching-learning methodologies that will be applied:

- Lectures
- Oral presentations
- laboratory practice
- Problem-Based Learning (PBL)

6. LEARNING ACTIVITIES

Listed below are the types of learning activities and the number of hours the student will spend on each one:

Training activity	Number of hours
Lectures	20h
Asynchronous Masterclass	10h
Formative assessment	8h
Face-to-face knowledge test	2h
Problem solving	15h
Face-to-face tutoring	5h
Practical exercises	10h
Research	10h
Activities in workshops and/or laboratories	8h
Self-Study	50h
TOTAL	**150h**

7. ASSESSMENT

The evaluation systems are listed below, as well as their weightings on the total grade of the subject:

Assessment system	Weight
Test of knowledge: - Exam with 60 multiple-choice questions (90%) + silent sheet (10%)	55%
Case analysis and problem solving: - ***Neuroanatomy of mental disorders:*** A presentation will be prepared and delivered from a review article on the neuroimaging evidence of a psychiatric disorder	5%
Reports and briefs: – ***Psychobiological report on mental disorders.*** A summary report (10%) and a presentation with slides on the current state of the psychobiological basis of a psychiatric disorder (15%) will be prepared.	25%
Student report of the practical sessions:	10%

- Monitoring student progress. Attendance and performance of the Neurotorium, NS Histology, Prosection and Dissection Practices will be assessed.	
Laboratory Practices - Attendance and performance of an Escape Room will be assessed (practical methodology) based on the application of key concepts from the subject to practical cases.	5%

*The activity of Psychobiological Report of Mental Disorders (Reports and Writings) is part of a curricular activity horizontally integrated with the subject of Behavioral Biology

Additional compulsory face-to-face activities: the subject includes two compulsory face-to-face activities in the classroom that may be evaluated in the final exam of the subject:

- Resolution of a clinical case (patient María).
- Use of Patient 360 for the resolution of a clinical case.

The contents of these activities will not be shared with students via Hyflex (Teams) or the virtual campus, as attendance and in-person participation are required for their completion. The date of these activities will be communicated in advance via CANVAS.

When you access the course on the *Campus Virtual*, you'll find a description of the assessment activities you have to complete, as well as the delivery deadline and assessment procedure for each one.

Attendance

As established in the University's official degree assessment regulations, Title I, art. 4, "For students enrolled in on-site courses, it is mandatory to justify at least 50% attendance in classes as a necessary part of the assessment process and to fulfill the student's right to receive guidance, assistance, and academic supervision from the teacher." Failure to provide evidence of at least 50% attendance through the means proposed by the university will allow the teacher to grade the course as failed in the regular call.

Students who have not met the 50% attendance requirement in the regular call may be graded as failed and will need to pass the corresponding objective tests in the extraordinary call, where they must obtain a grade of 5.0 out of 10 or higher.

7.1. Ordinary call

To pass the course in the ordinary call, you must obtain a final grade (weighted average) of 5.0 or higher out of 10.0. You must obtain a grade of 5.0 or higher out of 10.0 in three separate blocks:

- Block 1: This block includes the **Objective Knowledge Test** (final exam), which consists of 60 multiple-choice questions and a silent slide. The score is distributed 90% for the test and 10% for the slide. It weighs 55% of the total amount of the subject.

- Block 2: This block includes the activities **Case Analysis and Problem Solving** (*Neuroanatomy of mental disorders*) and **Reports and Briefs** (*Psychobiological report of mental disorders).* The weighted average of both activities must be at least 5.0 out of 10.0. In total, this block weights 30% of the total of the subject, which is distributed as follows:
  - *Neuroanatomy of mental disorders:* The presentation with slides corresponding to this work is 5% of the final grade.
  - *Psychobiological report of mental disorders:* The summary report will have a value of 10%, while the presentation with slides will contribute 15%, adding up to a total of 25% of the grade between them.

  Works from previous years will not be accepted; the activities submitted must be original and unpublished.
- Block 3: This block includes the **Laboratory Practical** and the Student report of the practical sessions. This block weighs 15% of the total subject. The weighted average of both must be at least 5.0 out of 10.0. The Escape Room practice will have a weight of 5%, while the average grade of the evaluation tests of the remaining four practices will have a weight of 10%.

PLAGIARISM AND USE OF AI

Any student who resorts to or uses illicit means during an evaluation test, or who improperly claims authorship of academic work required for assessment, will receive a failing grade ("0") in all evaluation tests for the exam period in said subject in which the violation occurred, and may also face disciplinary action following the opening of a disciplinary proceeding.

AI-Generated Content: AIGC-Generated Content (AIGC) tools, such as ChatGPT and other language models (LLMs), cannot be used to generate work. These tools cannot be held responsible in any way for the content written in the work. The use of AI must be authorized by the teacher in each activity. If a student has used these tools to develop any part of their work, their use should be described in detail in the work. The student is fully responsible for the accuracy of the information provided by the tool and for correctly referencing any supporting work. Tools used to improve spelling, grammar, and general editing are not included in these guidelines. The final decision on the appropriateness of the reported use of an artificial intelligence tool rests with the professor, the academic coordinator, and the direction of the degree.

DELAYED SUBMISSION OF MANDATORY ACTIVITIES

Late submission of mandatory assignments will result in the activity not being assessed, and a numerical grade of 0 will be assigned.

Laboratory Practical sessions

Mandatory uniform use: To participate in laboratory sessions, students are required to wear the full uniform (laboratory coat). Any student who does not attend with the complete uniform will not be allowed to take part in the session and will receive a grade of 0 for the corresponding assessment activities.

Unjustified absence from laboratory sessions will result in a grade of 0 for the evaluation activities corresponding to that session.

Regarding justified absences:

1. If a student is unable to attend a practical session for a justified reason (in accordance with UEM regulations), they must inform the teacher sufficiently in advance. Whenever possible, an attempt will be made to relocate the student to another group. If relocation is not possible, a single justified absence from laboratory practicals will be allowed. In this case, the final grade will be calculated as the weighted average of the practicals completed, excluding the justified absence. (i.e., the grade is calculated based on 3 practicals instead of 4).
2. Only one justified absence will be allowed. Any additional absence—justified or not—will result in a grade of 0 for the evaluation activities corresponding to that session..

7.2. Extraordinary call

To pass the course in the extraordinary call, the same requirements as in the ordinary call must be fulfilled. Activities that were not passed in the ordinary exam session must be submitted after receiving the corresponding corrections from the professor, or those that were not submitted. To pass the course in the extraordinary exam session, you must obtain a final grade (weighted average) of 5.0 or higher out of 10.0 for the course. In addition, you must obtain a grade of 5 or higher out of 10 in each of the three blocks independently:

- Block 1: Objective knowledge test (final exam). This block will be retaken through a knowledge test similar to the final exam of the regular exam session, with 60 multiple-choice questions and a blank sheet. The score is distributed as 90% for the test and 10% for the sheet.
- Block 2: Case analysis and problem solving + reports and papers (weighted average of both). The assignments and oral defenses may be carried out individually or in groups, according to the instructions and criteria of the professor.
- Block 3: Internship report + Laboratory practice (weighted average of both). The retake for this block will be carried out in a practical and face-to-face manner, during the extraordinary period, depending on the availability of the laboratories.

8. SCHEDULE

This section indicates the schedule with delivery dates of assessable activities of the subject:

Assessable activities	Date
Practical Laboratory 1	October
Case analysis and problem solving.	October
Practical Laboratory 2	November
Practical Laboratory 3	November
Practical Laboratory 4	November

Practical Laboratory 5	December
Reports and Briefs	December
Activity 8. Test of knowledge:	January

This schedule may be subject to changes due to logistical reasons. Any modifications will be communicated to the student in due time.

9. BIBLIOGRAPHY

The reference work for the follow-up of the subject is:

- Mtui, E. (2017). *Fitzgerald. Clinical Neuroanatomy and Neuroscience* (7th ed.). ISBN 9788491131021 (digital)
- Champney, T.H. (2017). *Essential Clinical Neuroanatomy.* Pan american. ISBN 9786079736880 (digital)
- García-Porrero, J.A. (2014) *Human Neuroanatomy.* ISBN 9788498357707(digital)
- Crossman, A.R. (2015) *Neuroanatomy. Text and atlas in color* (5th ed.). ISBN 9788445826157
- Felten, D.L. (2016) *Netter. Atlas of neuroscience* (3rd ed.). Elsevier. ISBN 9788445826652.
- Haines, D.E., & Mihailoff, G.A. (2019). *Principles of Neuroscience: Basic and Clinical Applications* (5th ed.). Elsevier. ISBN 9788491135005.
- Drake, R.L., Wayne Vogl, A. & Mitchel, A.W.M. (2013) *Gray, Basic Anatomy.* ISBN 9788480869423
- Misulis K.E. and Head T.C. (2008) *Netter. Essential neurology.* ISBN 9788445819005
- Haines, D.E. (2013) *Principles of Neuroscience* (4th ed.). ISBN 9788490222584
- Tortora, G. & Tzal, K. (2013) *Principles of Anatomy and Physiology* (13th Ed.). ISBN 9786077743781
- Thibodeau, G.A. (2012). *Structure and Function of the Human Body* (14th ed.). ISBN 9788480869621
- Paulsen F. and Waschke, J. (2012) Sobotta. *Atlas of human anatomy. Head, Neck and Neuroanatomy.* ISBN 9788480868747
- Ojeda, J.L. and Icardo, J.M. (2004) *Human Neuroanatomy: Functional and Clinical Aspects*. ISBN: 9788445814086.

Online Resources:

- https://anatomylearning.com/
- https://www.kenhub.com/es/start/neuroanatomy

10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

From the Educational Guidance and Diversity Unit (ODI) we offer support to our students throughout their university life to help them achieve their academic achievements. Other pillars of our action are the inclusion of students with specific educational support needs, universal accessibility on the different campuses of the university and equal opportunities.

This Unit offers students:

1. Accompaniment and follow-up through the realization of personalized counseling and plans for students who need to improve their academic performance.

2. In terms of attention to diversity, non-significant curricular adjustments are made, that is, at the level of methodology and evaluation, in those students with specific educational support needs, thus pursuing equality of opportunities for all students.
3. We offer students different extracurricular training resources to develop various skills that will enrich them in their personal and professional development.
4. Vocational guidance through the provision of tools and advice to students with vocational doubts or who believe that they have made a mistake in the choice of the degree

Students who need educational support can write to us at: orientacioneducativa@universidadeuropea.es

11. SATISFACTION SURVEYS

Your opinion matters!

The European University encourages you to participate in satisfaction surveys to detect strengths and areas for improvement in the teaching staff, the degree and the teaching-learning process.
The surveys will be available in the survey space of your virtual campus or through your email.
Your assessment is necessary to improve the quality of the degree.

Thank you very much for your participation.