1. BASIC INFORMATION

Course	NEUROPSYCHOLOGY
Degree program	PSYCHOLOGY
School	SCHOOL OF BIOMEDICAL AND HEALTH SCIENCES
Year	3RD
ECTS	6
Credit type	Elective
Language(s)	English
Delivery mode	Presential
Semester	1st
Academic year	2025-2026
Coordinating professor	Cristina Bonet Ferrer
Professor	Cristina Bonet

2. PRESENTATION

Neuropsychology is an elective course of 6 ECTS of the third year of the bachelor's in psychology. The course is part of the Clinical Intervention mentioned. Neuropsychology is aimed at acquiring the basic competences in human neuropsychology, a field of psychology dedicated to the study of the relationship between the brain and human behavior.

Throughout this course we will delve into the structure and organization of the nervous system, introducing terms that we will need throughout the course. We will review the main techniques available for the study of the structure and function of the nervous system, highlighting neuroimaging techniques. We will also identify the most frequent causes of injury at the level of the nervous system, in particular, cerebrovascular strokes, traumatic brain injury, tumours and epilepsy. We will also delve into the relationship between different lobes and brain areas and cognitive functions such as language, memory, etc., and associated pathologies.

3. LEARNING OUTCOMES

KNOWLEDGE

KN08: Characterize the different attentional networks, their neuroanatomical bases, the experimental paradigms used for their evaluation, and the different neuropsychological diagnoses associated with them.
• Identify techniques and tools for assessing neuropsychological processes.
• Describe the structure of the human nervous system and its support for processes such as memory, attention, emotion, language, and other basic psychological processes.

• Describe the neural mechanisms and dynamics of the bioelectrical activity of the nervous system as substrates for the correlation established with the basic psychological processes studied in the corresponding subjects.

SKILLS
SK03: Design evaluation protocols in clinical and psychological counseling settings based on clinical interviews, laboratory tests, and behavioral observations.
• Apply techniques and tools for assessing neuropsychological processes.
• Analyze the neuropsychological foundations of emotions and basic cognitive functions.
• Analyze a specific case using methods from neuropsychology that were employed.

COMPETENCES
CP04: Understand the biological foundations of human behavior and psychological functions.
CP13: Be able to describe and measure variables (personality, intelligence, and other aptitudes, attitudes, etc.) and cognitive, emotional, psychobiological, and behavioral processes.

4. CONTENT

1. Introduction to Neuropsychology
Introduction to the relevance of neuropsychology and the relationship with the DSM-5, history and notable authors with their discoveries and theories.

2. Functional anatomical organization of the nervous system and neuroendocrine system.
Analyze the anatomical and functional organization of the nervous system. Gray matter and white matter. Nuclei, nerves and tracts. Forebrain (hemispheres, lobes, basal nuclei). Brainstem [diencephalon, midbrain (midbrain), hindbrain (pons, medulla oblongata, and cerebellum)]. Cerebral vascularization (anterior system and posterior system). Cerebrospinal fluid and Meninges.

3. Methods in psychophysiology and neuropsychological assessment.
Analyze the main evaluation methods in psychophysiology and neuropsychology including neuroimaging techniques: Encephalographic recording. Morphological techniques (conventional radiography, angiography, computed tomography, magnetic resonance imaging). Functional techniques (positron emission tomography, single photon emission tomography, functional magnetic resonance imaging). Neuropsychological examination. Intelligence tests (WAIS-IV, WISC-V, WPPSI-V...)

4. Neuropsychology of praxis and gnosis.
Neuropsychological basis of gnosis function. Classification of agnosia. Neuropsychological basis of praxis function. Classification of apraxia. Neuropsychological assessment of apraxia and agnosia. Clinical case.

5. Neuropsychology of attention.
Neuropsychological basis of attention and attention disorders. Neuropsychological assessment of attention. Clinical case.

6. Neuropsychology of executive functions
Neuropsychological basis of executive function. Executive dysfunction. Neuropsychological assessment of executive functions. Clinical case.

7. Neuropsychology of language.
Neuropsychological basis of language. Language disorders: aphasias. Neuropsychological assessment of language. Clinical case.

8. Neuropsychology of learning and memory.

Neuropsychological basis of memory and learning. Memory disorders: amnesias. Neuropsychological assessment of memory. Clinical case.

9. Emotion and the social brain
Neuropsychological basis of emotions, motivation, eating behaviour, social behaviour and sexual behaviour. Neuropsychological disorders and assessment techniques. Clinical case.

10. Neurological disorders.
Cerebral vascular disorders. Traumatic brain injuries. Infections. Epilepsy. Tumors. Neurodegeneratives disorders and dementia.

5. TEACHING-LEARNING METHODOLOGIES

The types of teaching-learning methodologies used are indicated below:

- Lectures
- Case study methodology
- Problem-based learning
- Oral presentations

6. LEARNING ACTIVITIES

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

Learning activity	Number of hours
Lectures	35h
Autonomous work	50h
Formative assessment	5 h
Problem solving	25 h
Face-to-face tutoring	5 h
Research	20 h
Conferences	10 h
TOTAL	**150**

7. ASSESSMENT

Listed below are the assessment systems used and the weight each one carries towards the final course grade:

Assessment system	Weight
DEBATES AND FORUMS: Active participation in the forum with the working group is required, formulating relevant questions related to the initial clinical interview and the neuropsychological tests to be administered. The information	5%

gathered through this exchange will serve as the foundation for the report corresponding to Assignment A3, focused on the analysis of a clinical case.	
CASE ANALYSIS AND PROBLEM-SOLVING: A1 → WAIS-IV Report (10%): the teacher will provide a clinical case of a patient who was administered the WAIS-IV test and the student must write a report on the case. A2 → Reflective diary about simulations (5%): there will be 3 simulation scenarios. The student must present a summary and a reflection on each situation. Attendance at these three sessions is mandatory. A3 → *Clinical case (5%)*: the teacher will provide a clinical case and the student will have to write a report on the case and which area could be affected.	20%
REPORTS AND WRITINGS: In pairs, students will have to do a neuropsychological assessment to 2 people with a large age difference and analyse and compare the results and present it to the class.	20%
ORAL PRESENTATION: Oral presentation of the work in the reports and writings.	5%
EXAM: The exam will consist of 40 multiple choice questions with 3 options (9/10 points) and 2 open questions (1/10 points).	50%

*In addition, students will be required to attend and participate in a session in which the transversal patient Gabriel will be presented using the Paciente 360º software. Attendance at this session is mandatory and will be assessed through questions in the final exam.

** Likewise, students must attend and participate in a session in which the clinical case of the patient María will be presented. Attendance is mandatory and will be evaluated through questions included in the final exam.

*** Mandatory attendance at all oral presentations delivered by fellow students is a requirement for the successful completion of the Research Project. Physical presence during the oral presentation sessions is compulsory; remote participation will not be accepted.

Integrated Curriculum Activities: Additionally, the course includes two activities that require coordination with courses from different years of the Psychology degree. Participation in these activities requires mandatory attendance in the classroom, and their content will be included in the exam material. The dates for these activities will be announced in advance via the virtual campus.

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

Attendance

According to Art. 1.4 of the Regulation for the Evaluation of Official Degree Degrees of the European University of Madrid (of the continuous evaluation): "The obligation to justify at least 50% attendance at classes is established as part of necessary for the evaluation process and to comply with the student's right to receive advice, assistance and academic follow-up from the teacher. For these purposes, students must use the technological system that the University puts at their disposal, to accredit their daily attendance to each of their classes. This system will also serve to guarantee objective information on the active role of the student in the classroom.

Those students who have not achieved a 50% attendance rate in the first exam period may be graded as failing and must pass the corresponding objective exams in the second exam period for the subject, where they must obtain a grade equal to or higher than 5.0 out of 10.

7.1. First exam period

To pass the course in the first exam period, you must obtain a grade of 5 or higher out of 10 in higher in the following sections:

- Knowledge test (final exam of the course).
- Active methodologies block (case analysis and problem-solving, reports and writings, Oral presentation and Debates and Forums).
- Project (PBL: Reports + Oral presentation)
- Final grade of the course (weighted average): 50% active methodologies block and 50% theory block (knowledge test).

PLAGIARISM AND USE OF IA

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: AI-generated content tools (AIGC), such as ChatGPT and other language models (LLMs), cannot be used to generate assignments. These tools also cannot be responsible for any written content in the assignment. The use of AI must be authorized by the instructor for each activity. If a student has used these tools to develop any part of their work, this use must be detailed in the assignment. The student is fully responsible for the accuracy of the information provided by the tool and for correctly referencing any supporting work. Tools used for spelling, grammar, and general editing are not included in these guidelines. The final decision on the appropriateness of the reported use of an AI tool rests with the instructor, academic coordination, and program director.

DELAYED SUBMISSION OF MANDATORY ACTIVITIES

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

Simulation

Uniform Requirement for Simulation Sessions: Whenever simulation activities are conducted, students are required to wear the appropriate uniform (grey scrub top and trousers) in the simulated hospital. Students who do not attend with the complete uniform will not be allowed to participate in the simulation and will be marked as absent for that session. There will be a limit on the number of absences from simulation sessions, regardless of whether they are justified or not, as missing these sessions prevents students from acquiring the necessary competencies through this methodology.

In the event that a student does not attend a simulation session due to a duly justified reason, they must make up for the missed activity by recording a video in which they reenact the same simulation with a "patient." This make-up activity must be completed within the regular period. For the absence to be considered justified, the reason must be properly documented and validated by the academic advisor in accordance with the university's regulations.

If the student misses a simulation without justification, they will be required to make up for that session during the extraordinary period. In this case, they must submit a recorded simulation video as part of the recovery process and/or attend a ***face-to-face examination*** scheduled for the extraordinary period.

Likewise, if the student accumulates more than two absences (whether justified or not) they will also be required to recover the simulation block during the extraordinary period, under the same conditions: submission of a simulation video and attendance at a face-to-face examination.

7.2. Second exam period

To pass the subject in the second exam period, the same guidelines as in the first exam period will be followed. It is necessary to submit the activities that were not passed in the first exam period, after receiving the corresponding corrections from the instructor, or those that were not submitted.

To pass the course in the second exam period, you must obtain a final grade of 5 or higher out of 10 in the following sections:

- Knowledge test (final exam of the course).
- Active methodologies block (case analysis and problem-solving, reports and writings, Oral presentation and Debates and Forums).
- Project (PBL: Reports + Oral presentation)
- Final grade of the course (weighted average): 50% active methodologies block and 50% theory block (knowledge test).
- Debate: A dialogue will be established with the teacher or their teamwork through the forum about the chosen clinical case, asking relevant questions related to the initial clinical interview and the neuropsychological tests that are considered necessary to apply. The information obtained through this exchange will serve as the basis for the preparation of the report corresponding to work A3, focused on the analysis of a clinical case.

Simulations Recovery in Extraordinary Call

The recovery of simulations in the extraordinary call will be carried out by delivering a simulated video and/or presenting them to a face-to-face test that will be carried out during the extraordinary period.

8. SCHEDULE

This table shows the delivery deadline for each assessable activity in the course:

Assessable activities	Deadline
Forum and debate	Week 6-7
Assigments	A1: Week 7-8 A2: Week 12-13 A3: Week 13-14
Project: Report & oral presentation	Week 14-15
Exam	Week 18

This schedule may be subject to changes for logistical reasons relating to the activities. The student will be notified of any change as and when appropriate.

9. BIBLIOGRAFÍA

The main reference work for this subject is:

- Kolb, B. & Whishaw, I.Q. (2021). *Fundamentals of Human Neuropsychology* (8th Ed). Worth Publishers

The recommended Bibliography is:

- Lezak, M. D., Howieson, D. B, & Loring, D.W. (2012). *Neuropsychological Assessment* (5th ed). Oxford University Press.
- Baddeley, A., Eysenck, M.W. y Anderson, M.C. (2020) *Memory* (3rd ed). Psychology Press.
- Golden, C.J., Hammeke, T.A., Purisch, A.D. (1980). *The Luria-Nebraska Neuropsychological Battery*. Wester Psychological Services.
- Hebben, N., Milberg, W. (2009). *Essentials of Neuropsychological Assessment* (2nd Ed). Wiley.
- Lichtenberger, E.O., Mather, N., Kaufman, N.L., Kaufman, A.S. (2004). *Essentials of Assessment Report Writing*. Wiley.
- Morgan, J.E. & Ricker, J.E. (2008). *Textbook of Clinical Neuropsychology*. Taylor and Francis Publishers
- Snyder, P.J., Nussbaum, P.D., Robins, D.L. (2005). *Clinical Neuropsychology: A Pocket Handbook For Assessment* (2nd ed.) Amer Psychological Assn.
- Strub, R.L., Black, F.W. (1977). *The Mental Status Examination in Neurology*. Davis Company.

10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

From the Educational Guidance and Diversity Unit we offer support to our students throughout their university life to help them reach their academic achievements. Other main actions are the students inclusions with specific educational needs, universal accessibility on the different campuses of the university and equal opportunities.

From this unit we offer to our students:

1. Accompaniment and follow-up by mean of counselling and personalized plans for students who need to improve their academic performance.
2. In terms of attention to diversity, non-significant curricular adjustments are made in terms of methodology and assessment for those students with specific educational needs, pursuing an equal opportunity for all students.
3. We offer students different extracurricular resources to develop different competences that will encourage their personal and professional development.
4. Vocational guidance through the provision of tools and counselling to students with vocational doubts or who believe they have made a mistake in their choice of degree.

Students in need of educational support can write to us at:

orientacioneducativa@universidadeuropea.es

11. ONLINE SURVEYS

Your opinion matters!

The Universidad Europea encourages you to participate in several surveys which help identify the strengths and areas we need to improve regarding professors, degree programs and the teaching-learning process.

The surveys will be made available in the “surveys” section in virtual campus or via e-mail.

Your assessment is necessary for us to improve.

Thank you very much for your participation.