



Universitat de Lleida

DEGREE CURRICULUM
**NEUROIMAGING AND
ELECTROPHYSIOLOGICAL
TECHNIQUES**

Coordination: BLANCH PLANA, ANGEL

Academic year 2022-23

Subject's general information

Subject name	NEUROIMAGING AND ELECTROPHYSIOLOGICAL TECHNIQUES			
Code	14801			
Semester	1st Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Double degree: Master in General Health Psychology and Master in Neuropsychology	2	COMPULSORY	Blended learning
	Master's Degree in Neuropsychology	1	COMPULSORY	Blended learning
Course number of credits (ECTS)	6			
Type of activity, credits, and groups	Activity type	PRAULA		TEORIA
	Number of credits	1.4		4.6
	Number of groups	1		1
Coordination	BLANCH PLANA, ANGEL			
Department	PSICOLOGIA			
Important information on data processing	Consult this link for more information.			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
ARQUE FUSTE, GLORIA	gloria.arque@udl.cat	0	
BARRÓS LOSCERTALES, ALFONSO	barros@uji.es	3	
BLANCH PLANA, ANGEL	angel.blanch@udl.cat	3	

Learning objectives

- Properly interpret the clinical and research results derived from the different neuroimaging and electrophysiological tests
- Structure and write a research report according to international standards.
- Search effectively the scientific information that bases the knowledge.
- Critically analyze the scientific information found.

Competences

Basic Competences

CB06 To be able to understand the knowledge that enables creativity in the development or application of ideas, very often in a research context.

CB07 To be able to apply the knowledge that has been learnt and to have an adequate capacity to solve problems in new environments in different (and multidisciplinary) contexts related to the study area.

CB08 To be able to integrate knowledge and cope with the complexity of making judgements from an information which may be incomplete or limited, and which includes social and ethic responsibility.

CB09 To be able to communicate conclusions and knowledge that the student has to a specialized and non specialized audiences.

CB10 To be able to have the learning skills that enable them to continue studying in an autonomous way.

General Competences

CG1 To be able to search, analyze and use up to date information that is related to the latests advances in neuropsychology within scientific literature and using a critical way of thinking.

CG2 To be able to formulate hypotheses for research and clinical practice in the field of neuropsychology with the scientific method.

CG5 To be able to do oral and written communications, both in the scientific and informative fields, adapted to specific subjects related to neuropsychology.

CG6 To be able to chose the best way to act depending on each case, following a systematic process which is fundamented in science.

Specific Competences

CE1 To be able to show a deep theoretical knowledge about the functioning of the brain and the bases of neuropsychology.

CE2 To be able to elaborate an neuropsychological exploration plan in order to do a correct diagnosis and a prognosis according to the evidence.

CE3 To be able to perform a neuropsychological exploration, adapted to the type of patient and according to the age and other relevant characteristics.

CE5 To be able to design, apply and evaluate integral plans of neuropsychological rehabilitation which are adapted to the characteristics of the patient.

Subject contents

Unit 1: Static techniques of brain imaging.

Unit 2: Techniques for recording the electrical activity of the brain.

Unit 3: Dynamic brain imaging techniques.

Unit 4: Applications of neuroimaging and psychophysiology techniques in neuropsychology.

Methodology

1 Online master classes

2 Critical reading and document analysis

3 Discussion forums and online colloquium

4 Reporting / work

6 Oral exhibitions online.

8 Case studies

9 Individual work.

10 Practices

Development plan

Nº	Formative activity	Hours allocated to the training activity (*)	Percentage of attendance
1.	Theory in person / online	20	100%
2.	Participation in online discussion forums	5	0%
3.	Case study	5	0%
4.	Face-to-face monitoring sessions	14	100%
5.	Oral presentations online / individual / group	2	100%
6.	Practices	14	100%
7.	Tutoring, advice and supervision of work and / or individual and / or group reports.	10	100%
8.	Reading and analysis of texts	20	0%

9.	Study and preparation of evaluation tests	40	0%
10.	Preparation of works and / or reports	20	0%
Total		150h	

Evaluation

Nº	Evaluation Systems	Minimum weighting
1	Participation in forums and virtual debates	10%
2	Analysis of scientific documentation (face-to-face session + subject assessment)	10%
3	Preparation of works and / or reports	40%
4	Written Tests	40%

Bibliography

Acharya, J. N., Hani, A., Cheek, J., Thirumala, P., & Tsuchida, T. N. (2016). American Clinical Neurophysiology Society Guideline 2: Guidelines for Standard Electrode Position Nomenclature. *Journal of Clinical Neurophysiology*, 33(4), 308-311.

Blanch, A., Balada, F., & Aluja, A. (2013). Presentation and AcqKnowledge: An application of software to study emotions and individual differences. *Computer Methods and Programs in Biomedicine*, 110(4), 89-98.

Carretié, L. (2001). *Psicofisiología*. Madrid: Ediciones Pirámide.

Maestú Unturbe, F., Ríos Lago, M., Cabestrero Alonso, R. (2008). *Neuroimagen. Técnicas y procesos cognitivos*. Elsevier Masson, Barcelona.

Malmivuo, J., & Plonsey, R. (1995). *Bioelectromagnetism*. New York: Oxford University Press.

Nicolau-Llobera, M. C., Burcet-Darde, J., & Rial-Planas, R. V. (1995). *Manual de técnicas de electrofisiología clínica*. Palma de Mallorca: Universitat de les Illes Balears.

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