



Universitat de Lleida

DEGREE CURRICULUM
**NEUROSCIENCE AND
BEHAVIOUR**

Coordination: DESFILIS BARCELÓ, ESTER

Academic year 2020-21

Subject's general information

Subject name	NEUROSCIENCE AND BEHAVIOUR		
Code	102911		
Semester	2nd Q(SEMESTER) CONTINUED EVALUATION		
Typology	Degree	Course	Character
	Bachelor's Degree in Psychology	2	COMPULSORY
	Master's Degree in Neuropsychology		COMPLEMENTARY TRAINING
Modality	Attendance-based		
Modality	Blended learning		
Course number of credits (ECTS)	6		
Type of activity, credits, and groups	Activity type	PRAULA	TEORIA
	Number of credits	1.8	4.2
	Number of groups	3	1
Coordination	DESFILIS BARCELÓ, ESTER		
Department	EXPERIMENTAL MEDICINE		
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
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Learning objectives

To know the conceptual and historical foundations of behavioural neuroscience.

To appreciate the contributions of the different disciplines that study the neurobiological bases of behaviour.

To analyse how organisms respond and adapt to the environment according to the organization of their nervous system and how it processes and integrates the information it receives.

To know the basis and applicability of the different techniques and methodologies used for the study of behavioural neuroscience.

To know how to interpret the experimental results obtained by means of these techniques and methodologies.

Analyse human behaviour as a result of the activity of systems operating at different levels of organisation and apply it to the explanations of different human behaviours.

Know the biological bases of human behaviour under normal and pathological conditions.

To know the biological foundations that underlie perception, learning and memory, language, attention and consciousness.

Understand the neurobiological mechanisms that regulate the sleep-wake cycle and other biological rhythms.

Know the biological foundations that regulate normal emotional response and the biological basis of emotional disorders.

To know the brain reward systems and their involvement in addictive behaviours.

Competences

Basic skills:

CB2 Apply their knowledge to their work or vocation in a professional way and possess the skills that are usually demonstrated by developing and defending arguments and solving problems within their area of study.

CB3 Ability to gather and interpret relevant data (usually within their area of study) to make judgements that include reflection on relevant social, scientific or ethical issues.

CB4 Ability to convey information, ideas, problems and solutions to both specialized and non-specialized audiences.

CB5 To be able to develop those learning skills necessary to undertake further study with a high degree of autonomy

General Competencies:

CG1 Developing the ability to adapt to new situations and solve problems effectively.

CG5 Demonstrating critical ability to make relevant decisions.

CG6 Reflecting on one's own limitations in a self-critical manner, considering the possibility of requesting

interdisciplinary collaboration.

CG7 Acting with creativity, research culture and professional communication.

CG8 Identify and evaluate own competencies, skills and knowledge according to the standards of the profession.

CG10 Respecting the fundamental rights of equality between men and women, the promotion of human rights and the values of a culture of peace and democratic values.

Specific Competencies:

CE9 Use the different documentary sources in psychology, show a mastery of the strategies needed to access information and assess the need to update documents.

CE10 Manage, analyze and interpret data within the framework of the disciplinary knowledge of the different fields of psychology.

CE11 Make critical decisions on the choice, application and interpretation of the results derived from the different psychological research methods.

CE12 To disseminate the knowledge derived from theoretical reviews and from the results of psychological research.

Transversal competences:

CT1 Acquire adequate oral and written comprehension and expression of Catalan and Spanish.

CT2 To acquire a significant command of a foreign language, especially English.

CT3 To acquire training in the use of new technologies and information and communication technologies.

CT5 To acquire essential notions of scientific thought.

Subject contents

1. Introduction to behavioural neuroscience.
2. Chemical perception and intake control.
3. Somatosensory system and nociception.
4. Visual perception, attention and awareness.
5. Auditory perception and language.
6. Reinforcement and addiction.
7. Learning and memory.
8. Chronobiology. Sleep and wakefulness.
9. Emotional processing and social cognition.
10. Sexual and parental behaviours.

Methodology

This year 2020-21 due to the Covid-19, the teaching will be on-line. Therefore, all activities will be done using the tools of the virtual campus, both for synchronous teaching and asynchronous activities.

Master classes: in which the teacher will explain part of the theoretical content of the subject. In these classes students are expected to be attentive and actively participate by asking questions and answering the questions, paradoxes and problems posed by the teacher.

Reverse class: students will have to do a non-presential study activity to prepare the class, using material provided by the teacher through the virtual campus. The face-to-face class will be used for discussion, problem solving and group work tasks with the advice of the teacher.

Practices: They facilitate learning based on experience. The active participation of the student is required. Although many of the internships are face-to-face (as long as the pandemic allows), some may be virtual. On the days prior

to the internship, the teacher will make available to students the material to be used during the internship, which should be printed and read before the internship session. After the practice, the student will have to present, through the virtual campus, a file with the results of the activity carried out.

Seminars: They are set up as debates around a relevant topic from a social, scientific and/or ethical point of view. The student will have to elaborate and defend adequately founded arguments and think critically.

Essays: reading activity of a scientific publication would complement each of the blocks of the subject and later elaboration of an essay. This activity allows the elaboration of the concepts of the content blocks and facilitates the continuous work of the students, as well as the continuous evaluation.

Evaluation activities: The aim is to collect information that allows to improve the teaching and learning strategies, and to introduce the necessary corrections in the current process. To this end, several objective tests are carried out throughout the course, as well as self-evaluation tests and assessment of the students' work. These activities allow for the monitoring of the student's individual progress, and at the same time allow for the detection of concepts that are not clear to the teachers. The self-evaluation activities will be carried out in person or through the evaluation tool of the virtual campus.

Tutorials: These can be face-to-face or virtual, individual or group (by appointment with the teacher).

Forums: The forums of the virtual campus aim to favour the active learning of students and the collaborative interaction between them. The student will have to participate in the forums that he/she will find in the virtual campus of the subject: 1) News: students will look for and publish news related to the subject and they will comment on them. The objective is to be aware of the rapid advances in research in this field and the social impact of the topics discussed in class, and to be critical of the way the media present the information. 2) Examination questions: students will publish examination questions related to the subject matter of the course, answer questions posed by peers and/or correct questions or answers by peers. The aim is to learn how to extract the relevant information from each topic, encourage cooperative work and altruism to the class.

Virtual campus: The virtual campus will be the main means of communication between teachers and students both for virtual classes that are made in synchrony, as well as for asynchronous communication. Classes will be held in the virtual campus by means of the video-conference tool, and information of general interest will be published (call for internships, group tutorials and assessment tests, assessment results), material for the face-to-face classes, practical activities and seminars, suggested readings, links to web pages... In addition, students must present the work they are doing in the Activities section of the virtual campus and contact the teacher through the mail application of the virtual campus.

Development plan

The development plan will be explained on the first day of school. Attendance at this class is mandatory.

Evaluation

The following tests or assessments will be carried out:

Evaluation of participation in class and in the virtual campus (forums, management, auto-test): 15%

Assessment of practices, seminars and essays: 15%

Exams of knowledge and skills: 70%.

Exam1: 10%.

Exam 2: 10%

Final exam: 50%.

In order to pass, you must achieve at least 50% of the maximum score, and it is essential to pass the final exam, as well as passing the practical exercises and seminars. It is compulsory to take all the assessment tests (exams

and controls), with the exceptions contemplated in the university regulations.

Throughout the semester, we will carry out controls (i.e., assessment tests for training purposes) on the theoretical and practical aspects of the subjects. The controls are compulsory and have a weight in the final mark. The controls do not eliminate material for the final exam.

In the final exam, all the theoretical and practical contents will be evaluated, representing 50% of the final grade. It is necessary to obtain a minimum of 5.

If due to work-related reasons, you are not able to make a continuous assessment, you can request an "alternative assessment", by means of a formal request to the faculty secretary. Students who opt for the alternative assessment will take an exam at the end of the semester on the theoretical and practical contents of the course. In order to pass the exam, students must obtain more than 5.

Bibliography

Recommended manuals

- Carlson, N.R. (2006). *Fisiología de la conducta* (8ª ed.). Madrid: Pearson Educación.
- Carlson, N.R. (2010). *Fundamentos de fisiología de la conducta* (10ª ed.). Madrid: UNED-Pearson Educación, 2010.
- Carlson, N.R., Birkett, M.A. (2017). *Physiology of Behavior* (12th ed.). Edinburgh: Pearson.
- Kalat, J.W. (2004). *Psicología Biológica* (8ª ed.). Thomson, Madrid.
- Kandel, E.R., Schwartz, J.H., Jessell, T.H. (1996). *Neurociencia y conducta*. Madrid: Prentice-Hall.
- Kandel, E.R.; Schwartz, J.H., Jessell, T.M. (2001). *Principios de Neurociencia* (4ª ed.). Madrid: McGraw-Hill-Interamericana.
- Pinel, J.P.J. (2007). *Biopsicología* (6ª ed.). Madrid: Pearson Educación.
- Purves D., et al. (2016). *Neurociencia* (5ª ed.). Madrid: Editorial Médica Panamericana.
- Rosenzweig, M.R., Breedlove, S. M., Watson, N.V. (2005). *Psicobiología. Una introducción a la Neurociencia conductual, cognitiva y clínica* (2ª ed.). Barcelona: Ariel Neurociencia,.
- Breedlove, S. M., Watson, N.V. (2013). *Biological Psychology: An introduction to behavioral, cognitive, and clinical neuroscience* (7th ed.). Sunderland, Massachusetts: Sinauer Associates.

Particularly recommended

- Watson, N.V., Breedlove, S. M. (2015). *The Mind's Machine: Foundations of Brain and Behavior* (2th ed.). Sunderland, Massachusetts. Sinauer Associates
- Striedter, G.F. (2016). *Neurobiology: A functional Approach*. New York: Oxford University Press.