



Universitat de Lleida

DEGREE CURRICULUM **PSYCHOBIOLOGY OF HUMAN DEVELOPMENT**

Coordination: DESFILIS BARCELO, ESTER

Academic year 2023-24

Subject's general information

Subject name	PSYCHOBIOLOGY OF HUMAN DEVELOPMENT			
Code	102900			
Semester	1st Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Bachelor's Degree in Psychology	1	COMMON/CORE	Attendance-based
	Master's Degree in Neuropsychology		COMPLEMENTARY TRAINING	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	2		1
Coordination	DESFILIS BARCELO, ESTER			
Department	EXPERIMENTAL MEDICINE			
Important information on data processing	Consult this link for more information.			
Language	Catalan, Spanish, English			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
DESFILIS BARCELO, ESTER	ester.desfilis@udl.cat	1	
FREIXES VIDAL, JÚLIA	julia.freixes@udl.cat	2	
SALVANY MONTSERRAT, SARA	sara.salvany@udl.cat	4,8	

Learning objectives

- Knowing the conceptual foundations and the different disciplines of psychobiology.
- Understand that human behavior is the result of the activity of systems that operate at different levels of organization, from the molecular to the ecological.
- Understand the interactions between the physical and social environment of the person and genetic, epigenetic, immuno-endocrine and neural factors.
- To understand the development of the nervous system and to relate the different stages of its ontogeny to psychological development.
- To understand the genetic, epigenetic and environmental factors involved in the development of the individual throughout the life cycle and their repercussion on possible psychological alterations.
- To apply the knowledge acquired to the analysis of the possible adverse effects of exposure throughout the life cycle to different physicochemical, biological and psychological agents.

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.

CB5 Ability 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 Demonstrate critical ability to make relevant decisions

CG6 Reflecting on one's own limitations in a self-critical manner, contemplating the possibility of requesting interdisciplinary collaborations.

CG7 To act with creativity, research culture and professional communication.

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

CG9 Recognising diversity and difference as a structural element of the human being, while recognising, understanding and respecting the cultural complexity of today's society.

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 domain of the necessary strategies to access information and value the need of documentary updating.

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.

Transversal competences:

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

CT2 Acquiring a significant command of a foreign language, especially English.

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

Subject contents

Block 1. Concept and method of developmental psychobiology

Topic 1. Concept and methods of psychobiology.

Topic 2. Principles of developmental psychobiology.

Block 2. Genes, organism and environment.

Topic 3. Genes and genome.

Topic 4. Epigenetics.

Topic 5. Inheritance.

Topic 6. Genetics of behavior.

Block 3. Development and brain plasticity.

Topic 7. Morphogenesis and histogenesis of the nervous system.

Topic 8. Brain maturation and plasticity.

Topic 9. Hormones and brain development.

Topic 10. Aging.

Methodology

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 the students the material to be used during the internship, which the student will have to print out 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.

Evaluation activities: The objective 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 may be carried out throughout the course, as well as self-evaluation tests and/or evaluation of the work of colleagues.

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

Self-assessment test (Virtual Campus tool): this tool allows students' individual progress to be monitored, while at the same time it helps teachers to detect concepts that are not clear.

Forums: The forums of the virtual campus are intended to encourage active learning by students and 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 (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, etc. will be published there. In addition, students must present their practices' results in the Activities section.

Development plan

It will be explained on the first day of class (attendance at this first class is compulsory).

Evaluation

Evaluation system

The following tests or assessments will be performed:

Assessment of internships, seminars, self-assessments, participation in class and in the virtual campus: 20%.

Tests of knowledge and skills: 80%.

We will do several evaluation tests during the course that will be announced well in advance. Each test will have a weight in the final grade:

Test	Contents	% Note
Test 1	Block 1	15%
Test 2	Block 2	35%
Test 3	Block 3	30%
Total		80%

In order to pass, a minimum of 50% of the maximum score must be achieved, and it is compulsory to take all assessment tests (exams). It is essential to pass the final test, as well as passing the practices and seminars.

From the evaluation tests, the proportional value of all grades higher than 4 will be obtained, as long as there is no more than one grade lower than 5. In the event that any exam has a grade lower than 4, or there are two or more exams with a grade lower than 5, the student must take a re-evaluation (recovery) test at the end of the semester. In order to take a make-up test, the student must have previously taken the test.

Those students who, for work reasons, cannot take the continuous assessment can ask for an "alternative assessment", by means of a formal request to the school secretary at the beginning of the course. Students who opt for the alternative assessment will take an exam at the end of the semester on the theoretical and practical contents (100% of the final mark). In the event of not passing the exam, they may take a make-up exam.

Bibliography

Textbooks (Spanish)

Abril et al. (2009). Fundamentos Biológicos de la Conducta (2ª Ed). Sanz y Torres, Madrid.

Carlson, N. R. (2006). Fisiología de la Conducta. Pearson, Madrid.

Carlson, N. R. (2010). Fundamentos de Fisiología de la Conducta, Pearson-UNED, Madrid.

Colmenares, F. (Coor.) (2009). Manual de Bases Biológicas de la Conducta. UDIMA, Madrid.

Colmenares, F. 2015. Fundamentos de psicobiología. Volumen 1: Conceptos, principios, evolución, desarrollo y herencia. Editorial Síntesis, Madrid.

Colmenares, F. 2015. Fundamentos de psicobiología. Volumen 2: Comportamiento y procesos psicológicos en contexto evolutivo. Editorial Síntesis, Madrid.

Kalat, J.W. (2004). Psicología Biológica. Thomson, Madrid.

Kandel, E.; Schwartz, J.H. (1997). Neurociencia y Conducta. Prentice Hall.

Pinel, J.P.J. (2007). Biopsicología. Pearson, Madrid.

Plomin et al. (2002). Genética de la Conducta. Ariel, Barcelona.

Rosenzweig et al. (2005). Psicología Biológica. Ariel, Barcelona.

Textbooks (English)

Gilbert, S.F., & David, E. (2015). Ecological Developmental Biology: Integrating Epigenetics, Medicine, and Evolution (2nd Ed). Sinauer Associates.

Michel, G.F., & Moore, C.L. (1995). Developmental Psychobiology: An Interdisciplinary Science. The MIT Press.

Nettle, D. (2009). *Evolution and Genetics for Psychology*. Oxford University Press.

Plomin et al. (2013). *Behavioral Genetics*. (11th ed.) Worth Publishers.

Stiles, J. (2008). *The fundamentals of brain development: Integrating nature and nurture*. Cambridge, MA: Harvard University Press.

Striedter, G.F. (2016). *Neurobiology: A Functional Approach*. Oxford University Press.