



Universidad
Católica
de Valencia
San Vicente Mártir

COURSE GUIDE

Neuroscience

Prof. Alfredo Esteve Martín
Prof. Ignacio Gómez Pérez

Philosophy Degree
1st Year

Course 2020-2021

NEUROSCIENCE

Preliminary remarks:

The teaching on this course is online. As specified in the Methodology section of this guide, it is interactive e-learning that is undertaken using audiovisual resources.

1.- COURSE DETAILS

Course Name	Neuroscience
ECTS Credits	6
Type of Learning	Basic
Calendar	Second Semester
Module Name	Scientific Foundations
Course Requirements	None
Lecturer	Ignacio Gómez Pérez (ignacio.gomez@ucv.es) Alfredo Esteve Martín (alfredo.esteve@ucv.es)

2.- BRIEF DESCRIPTION OF COURSE CONTENTS

We will approach neuroscience from the basics to the latest scientific advances, from a comprehensive point of view.

The course is divided into two parts. In the first, a physiological approach to the nervous system and the brain will be made. In the second, a philosophical approach will be made, considering mainly memory and learning processes, and emotional ones.

3.- COURSE PROGRAM AND CALENDAR

Lesson 1 Introduction to Neuroscience	January
Lesson 2. Structure and functions of nervous system cells: a) Cells of the nervous system b) Interneuronal communication	February

<p>Lesson 3. Structure of the nervous system</p> <p>a) The central nervous system</p> <p>b) The peripheral nervous system</p>	February- March
<p>Lesson 4. Brain plasticity</p>	March
<p>Lesson 5. Philosophical aspects of human physiology</p> <p>a) The genesis of the brain</p> <p>b) Learning and memory</p> <p>c) The reinforcement system</p>	March-April
<p>Lesson 6. Physiological introduction to the emotional process</p> <p>a) Historical-theoretical approach</p> <p>b) Historical-physiological approach. Joseph Ledoux</p> <p>c) Affective memory</p>	April-May
<p>Lesson 7. Emotional aspects in the human species</p> <p>a) Aggressive behaviour and violence</p> <p>b) Stress and anxiety</p>	May

4.- REFERENCES

4.1 Basic bibliography

<p>4.1.1</p>	 <p>Neurociencia y filosofía del hombre. Juan José Sanguinetti. Ed. Palabra. 1ª Ed, Oct 2014.</p>
<p>4.1.2</p>	<p>Course textbook. Carlson, N. R. (2000). Fisiología de la conducta (múltiples reediciones). Barcelona. Ed. Ariel Neurociencia</p> 

4.2 Further reading

<p>4.2.1</p>	<p>LeDoux, J. (1999). <i>El cerebro emocional</i>. Barcelona: Ariel.</p>
<p>4.2.2.</p>	<p>Rizzolatti, G. (2006). <i>Las neuronas espejo: los mecanismos de la empatía emocional</i>. Barcelona: Paidós.</p>
<p>4.2.3.</p>	<p>Damasio, A. (2011). <i>El error de Descartes</i>. Barcelona: Destino.</p>
<p>4.2.4.</p>	<p>Sanmartín Esplugues, J. (2013). <i>La violencia y sus claves</i>. Barcelona: Ariel Quintaesencia.</p>

5. METHODOLOGY

This subject corresponds to 6 ECTS credits, which is equivalent to 150 hours of student's work. That total amount of hours is distributed into 60 hours of teaching (2.4 ECTS) and 90 hours of student's self-study (3.6 ECTS).



In this subject, the teaching process (2.4 ECTS) is based on the following teaching-learning methodology:

- 1) A **dinamic text**, designed by the professor.
- 2) **Videoconference**, through which theory lessons are given as well as guided tasks (training tasks, text analysis, seminars, etc.) and collective tutorials. Videoconferencing must be always interactive and these sessions last 90 minutes.
- 3) Attending **Webinars** organised by the faculty and the head of the Department.
- 4) **Video-lessons** about the most relevant topics for the subject.
- 5) **Telematic activities through** UCVnet platform (such as taking part in debate forums, solving practical questionnaires etc.), with the lecturer's intervention to correct and provide some guidance to students.
- 6) **Assessment tests.**

Student's self-study (3.6 ECTS) is distributed in different activities:

- Asincronic re-view of the videoconferences.
- Preparing theory and practical lessons (*flipped classroom*).
- Course assignments.
- Studying and preparing the final assessment test.

6.- COMPETENCIES TO BE ACQUIRED BY THE STUDENT

(The figures refer to the officially approved (by ANECA) list of competencies of this Online Degree in Philosophy)

GENERAL COMPETENCIES [GC]

- 1 Organization and planning
- 3 Problem solving
- 4 Decision making
- 5 Interpersonal skills
- 8 Ability to work in multicultural and international environments
- 12 Ability to adapt to new situations and generate new ideas

SPECIFIC COMPETENCIES [SC]

- 21 To become acquainted with some central paradigms of scientific thinking
- 23 To write philosophical essays and show analytical and synthetic skills
- 25 Be able to understand and evaluate philosophical arguments
- 26 To be able to construct philosophical arguments
- 34 To know and assess scientific methodologies in their different scopes
- 37 Use specialized philosophical terminology and recognize categorical errors

7.- LEARNING OUTCOMES

RA1 The student knows and reasons the most important scientific paradigms [GC1, 5, SC21, 23]

RA2 The student learn the basics of neuroscience [GC3, SC34]

RA3 The student understands the relationship between anthropological philosophy and biology and neuroscience [GC8, 12, SC25, 26]

RA4 The student has discovered the feedback link between philosophy and science [GC4, SC34, 37]

8.- ASSESSMENT

The final grade for the course will be made up of the following items (it will be the average of the two blocks of the course)

Assessment Tool	Allocated Percentage
Attendance and participation	10%
Periodic evaluation (Submission of requested assignments)	50%
Final evaluation	40%