

# PHYSIOLOGICAL PSYCHOLOGY – Code 800159

## Academic Year 2018-19

### COURSE INFORMATION

**Undergraduate Studies:** 0812 – Degree in Psychology (Studies Plan 2009-10)

**Type:** Compulsory

**ECTS:** 6.0

**Module:** Compulsory psychological training

**Area:** Biological bases of behaviour

**Year:** Second

**Semester:** 2

### INSTRUCTOR INFORMATION

**Name:** Laura Orio

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**Office hours:** Mondays 10-14h

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**Office number:** Department of Psychobiology & Methods for the Behavioural Sciences (2008-D)

**Office hours:** 1st Semester: Thursdays 10-14h

2nd Semester: Thursdays 11-13h, Fridays 10-11, 13-14h

### SYNOPSIS

#### COMPETENCIES

##### General competencies

GC4: Know and understand the biological foundations of human behaviour and psychological functions

##### Transversal competencies

TC1: Analysis and synthesis.

TC2: Preparation and defence of properly reasoned arguments.

##### Specific competencies

SC4: Be able to describe and measure variables (personality, intelligence and other aptitudes, attitudes, etc.) and cognitive, emotional, psychobiological and behavioural processes).

#### TEACHING ACTIVITIES

##### ECTs break-down

TEACHING ACTIVITIES	Hours	% of total credits	Attendance
Class sessions	45	30%	100%
Lab sessions	7.5	0.5%	100%
Tutorials	10	6.6 %	50%
Students' work (class assignments and time of study)	77.5	51.2%	0%
Assessment activities	10	6.6%	100%

## BRIEF DESCRIPTION:

KEYWORDS. Visual and auditory systems; sensorimotor integration; sleep/wake behaviour; homeostasis and ingestive behaviour; reward and addiction; neurobiology of language; attention and consciousness; learning and memory.

## PRE-REQUISITES

The subjects Foundations of Psychobiology I and Foundations of Psychobiology II will help the student to understand better the contents of this subject.

## OBJECTIVES

1. To learn the conceptual and historical framework of Physiological Psychology
2. Interpretation of experimental results obtained by using psychobiological techniques.
3. Analysis of human behaviour as a result of different levels of organization in the nervous system (NS)
4. Analysis of the processing and integration of information by the NS and the response and adaptation of different brain mechanisms to the environment.
5. Understanding of visual and auditory processing of information by the NS as a general model of complex sensory processing.
6. Fundamentals of brain lateralization, speech, attention and consciousness.
7. To know the mechanisms of sleep/wake behaviour and other biological rhythms.
8. The knowledge of the biological mechanisms underlying the homeostasis in relation with the ingestive behaviour and the understanding of the mechanisms that regulate sexual, parental and social behaviours.
9. To know the reinforcement process, the brain reward systems and the neurobiological basis of the addictive behaviour.
10. Understanding of the physiological systems that regulate normal and altered emotional responses as well as the stress response.
11. Understanding of the neurobiological mechanisms underlying learning and memory.

## TOPICS

- The Nature of Physiological Psychology
- Learning and memory
- Emotional behavior and stress.
- Biological rhythms. Sleep and wakefulness
- Somatosensorial system and pain perception.
- Auditory integration and speech
- Visual integration, attention and consciousness
- Sexual, parental and social behaviours.
- Reward and drug addiction.
- Homeostasis and ingestive behaviour.

## ASSESSMENT

The subject Physiological Psychology comprises lectures, practical classes, seminars, student presentations, on-line activities and homework. There will be also complementary face-to-face and on-line tutorials available.

The evaluation of the above mentioned activities will be distributed as follows:

- a) The acquired knowledge (lectures, practical classes and seminars) will be evaluated by multiple-choice exams. The exams will score 70-80% of the total mark.
- b) The attendance to the practices, the participation in seminars and other activities, and the elaboration (originality, synthetic and analytical abilities) and presentation of the materials (student presentations, on-line activities and homework) will be positively evaluated. Such activities will score 20-30% of the final mark.

PRACTICES: 10% of total mark.

Knowledge acquired during the practices will be evaluated by a specific exam and/or notebook of practices. As a requirement to evaluate practices, the student **must attend**, at least, **to 70% of**

**them** (i.e., 5 of 7 practices); otherwise, the student will score 0 in this section. Recoverable in September: Students who do not attend to the minimum of practices during the course must hang over the notebooks of practices to the professor **AND** take a practical exam in September.

## **RESOURCES**

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### **Recommended manuals:**

Carlson, N. R. Physiology of Behavior. Pearson International Edition (2010, 8th edition).  
Kolb B. & Whishaw I.Q. An introduction to Brain and Behavior. Worth publishers. New York. (2011, 3rd edition)  
Pinel J. Biopsychology. Allyn & Bacon. Boston (2011; 8th edition)  
Breedlove, Watson and Rosenzweig. Biological Psychology: an introduction to behavioural, cognitive, and clinical neuroscience.. Sinauer Associates, Inc. Publishers, Sunderland, Massachusetts (2010, 6th edition)

### **Other manuals:**

Bear, M.F., Connors, B.W. & Paradiso, M.A. Neuroscience: exploring the brain. Lippincott, Williams and Wilkins, Maryland (2007, 3rd edition)  
Kalat, J.W. Biological Psychology. Wadsworth Cengage Learning. Belmont, CA (2009, 10th edition)  
Kandel, E.; Schwartz, J.H.; Jesseli, T.M. Principles of Neural Science. McGraw Hill. New York (2007)  
Kolb B. & Whishaw I.Q. Fundamentals of Human Neuropsychology. Worth Publishers, New York and Basingstore (2003, 5th edition)  
Purves, D. et al. Neuroscience. Sinauer Associates, Inc., MA (2004, 3th edition)