FOUNDATIONS OF PSYCHOBIOLOGY I 26901

Psychobiology Unit
Department of Psychobiology and Methodology of Health Sciences

GENERAL AIMS

This course gives an introductory view of behaviour genetics, physiology of the neuron and nervous system anatomy and phylogeny. This view is required as a basis for the study of the relationships between the psychological processes and their biological substrate, that will be seen in subsequent courses.
The specific aims that must be fulfilled by the students at the end of the course are the following ones:

1. With regard to Block A (behavioural genetics), the students must understand: the interactions between genes and environment and their influence on normal and pathological behaviour, identify the different kinds of heredity, interpret and draw conclusions based on the data depicted in graphs, histograms, etc; and, finally, use this knowledge as a basis for genetic counselling.
2. With regard to Block B (physiology of the neuron), the students must know the main features of glial cells and neurons, understand the basis of resting membrane potential and action potential, what are the synapses and the postsynaptic potentials, and how the neurons communicate.
3. With regard to Block C (Anatomy of the nervous system), the students must know the main features concerning the phylogenetical evolution of the nervous system, from celenterea to human beings, as well as the location and main functional relationships of the main regions of the human nervous system.

CONTENTS

BLOCK A: GENETICS OF BEHAVIOUR

Lesson 1. What is genetics of behaviour?
Lesson 2. What are the genes and how do they work?
Lesson 3. How environment influences behaviour ?
Lesson 4. How does genetics of behaviour works?
Lesson 5. How do illnesses appear? (I) Unifactorial or monogenic heredity
Lesson 6. How do illnesses appear? (II) Multifactorial and mitochondrial heredity
Lesson 7. How do illnesses appear? (III) Chromosomal anomalies
Lesson 8. How this knowledge can be applied? The case of genetic counselling

BLOCK B. PHYSIOLOGY OF THE NEURON

Lesson 9. The cells of the nervous system
Lesson 10. Neuronal excitability and conductivity
Lesson 11. Synaptic transmission

BLOCK C. ANATOMY OF THE NERVOUS SYSTEM

Lesson 12. Phylogeny and Basic organization of the nervous system
Lesson 13. Spinal cord, hindbrain and midbrain
Lesson 14. Forebrain

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IMPORTANT NOTICE: The lessons of this course are mainly given in Catalan. Only some of them (in one of the groups) will be given in Spanish. None of them are given in English.