

FOUNDATIONS OF PSYCHOBIOLOGY II

26906

Psychobiology Unit
Department of Psychobiology and Methodology of Health Sciences

Professors: Margalida Coll, David Costa, Roser Nadal, Marc Pallarés, Isabel Portell and Meritxell Torras

AIMS

The main aim of this course is to give basic concepts of neurochemistry and functional neuroanatomy, as well as of development of the nervous system, to facilitate, in subsequent courses, to study the relationships between behaviour and mental processes and their biological bases.

OUTLINE OF THE COURSE

The course is composed of three blocks: Block A (transmitter substances and neural plasticity), Block B (development of the nervous system) and Block C (functional neuroanatomical systems)

BLOCK A. TRANSMITTER SUBSTANCES AND NEURAL PLASTICITY

- Lesson 1. Neurotransmitters
- Lesson 2. Non synaptic communication
- Lesson 3. Mechanisms of synaptic plasticity

BLOCK B. DEVELOPMENT OF THE NERVOUS SYSTEM

- Lesson 4. Prenatal development
- Lesson 5. Life-long development of the nervous system

BLOCK C. FUNCTIONAL NEUROANATOMICAL SYSTEMS

- Lesson 6. Sensory and motor systems
- Lesson 7. Cerebral cortex and higher functions
- Lesson 8. The Limbic system
- Lesson 9. Homeostatic control systems
- Lesson 10. Ascending activating systems

BIBLIOGRAPHY

- Bear, M.F.; Connors, B.W.; Paradiso, M.A. (2002). *Neuroscience: Exploring the Brain*. Lippincott Williams & Wilkins
- Carlson, N.R. (2003). *Physiology of Behavior*. Allyn and Bacon.
- Corr, P. (2006) *Understanding Biological Psychology*. USA: Blackwell Publishing.
- Kiernan, J. A. 2005. Barr's *The Human Nervous System: An Anatomical Viewpoint*. 8th edition. Baltimore: Lippincott, Williams & Wilkins.
- Kolb, B, Whishaw, I.Q. (2000) *An Introduction to Brain and Behavior*. New York and Basingstoke: Worth Publishers.
- Patestas, M.; Gartner, L.P. (2006). *A Textbook of Neuroanatomy*. USA: Blackwell Publishing.
- Pinel, J.P.J. (2000) *Biopsychology*. Madrid: Prentice Hall.
- Purves, D.; Augustine, G.J.; Fitzpatrick, D.; Katz, L.C.; LaMantia, A-S., McNamara, J.O. (2004). *Neuroscience (Third Edition)*. : Sinauer Associates, Inc.

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.