UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Physiological Psychology - 1

2324-2-E2401P008-T1

Learning area

KNOWLEDGE AND SKILLS USEFUL TO UNDERSTAND, PROMOTE AND CHANGE INDIVIDUAL PSYCHOLOGICAL FUNCTIONING

Learning objectives

Knowledge and understanding

Knowing the neuroanatomical and functional bases of human mind in order to understand the cognitive, emotional and behavioral functions.

Applying knowledge and understanding

Ability to recognize and frame normal and abnormal behaviour in the contex in the contex of the relevant neurofunctional systems.
Ability to identify key diagnostic (behavioural or instrumental) tools to approach neurocognitive disorders and, in general, in neuroscience research.

Contents

The course aims to provide students with a basic knowledge of the neuro-functional architecture of the human cognitive and emotional processes. In particular, the neuro-functional bases of the nervous system will be provided, as well as the main theories and models on mental functions developed in the field of Cognitive Neuroscience, in order to favor the understanding of the cognitive, emotional and behavioral functioning of the individuals both in the

healthy and clinical population.

Detailed program

- Introduction to cognitive neuroscience
- Methods of cognitive neuroscience: behavioral, neuropsychological, electrophysiological, neuroimaging, TMS, DTI
- Electroencephalogram, sleep and biological rhythms
- Perceptual processes and recognition of objects and faces
- Acoustic processing of musical and linguistic sounds
- Action and Movements
- Selective attention and attention systems
- Memory systems
- Emotions and social cognition
- Language and communication
- Cerebral lateralization and hemispheric specialization
- Executive processes and frontal lobes
- Consciousness

Prerequisites

This course requires a basic knowledge of anatomy and physiology of the nervous system and its cognitive functions.

Teaching methods

Frontal lessons with slides and audio/video presentations.

Assessment methods

Optional written test and oral interview (interview on topics covered in class).
The written test is usually as follows: closed-ended tests (multiple choice, etc.) plus a few open-ended questions (equivalent to very short essays) plus a short essay (exposition of topics covered in class)

Textbooks and Reading Materials

Gazzaniga M.S., Ivry R.B., Mangun G.R. (2019). Cognitive Neuroscience: The Biology of the Mind, 5th Edition 4th Edition. Norton Publisher. (chapters 2, 13, 14 not included in the program).

Bear M.F., Connors B.W., Paradiso M.A. (2007). Neuroscience. 3° ed., (Only chapter 19, concerning EEG, Sleep

and Biological rhythms). Milano, Masson.

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING