UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Physiological Psychology - 1

2021-2-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

Developing the ability to recognize anomalies in the cognitive, emotional, social and behavioral functioning of the individuals

Ability to identify the main diagnostic and/or neuroimaging tools to be applied in some neurocognitive pathologies or in neuroscientific 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.

In the Covid-19 emergency period, classes will be held mainly in remote mode: video-recorded asynchronous lessons.

Assessment methods

Written examination followed by an oral examination (optional)

In the Covid-19 emergency period, exams will be telematics only. They will be conducted using Respondus platform.

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). Neuroscienze. Esplorando il cervello. 3° ed., (Only chapter 19, concerning EEG, Sleep and Biological rhythms). Milano, Masson.