UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Fondamenti Anatomo-Fisiologici dell'Attivita' Psichica

2425-1-E2401P002

Learning area

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

Learning objectives

Knowledge and understanding
• Overview of anatomic, physiological and neuroscientific methods to the study of the human brain
• Basis of neurobiology, neuroanatomy and neurophysiology of the central nervous system

Applying knowledge and understanding
• Linking the main motor and sensory functions to the anatomo-functional structure of the human nervous system
• Basic knowledge of the anatomo-functional underpinnings of brain dysfunctions e related behavioural disorders

Contents

The main aim of the course is to provide a primer in neuroanatomy and neurophysiology, with particular emphasis on topics that are relevant for psychologists and cognitive neuroscientists.

Detailed program

• Fundametal basis of neurobiology and electrophysiology of the neuron
• Development of the human nervous system
• Neuroanatomy of the human brain
• Cerebral blood and liquoral circulation
• Sensory systems
• Motor system
• Neurotransmitters and homeostatic control of the brain and behavior

Prerequisites

A basic knowledge of biology facilitates the understanding of the course contents.

For the academic year 2024/2025 it will not be possible to select this course as a single-course entry.

Teaching methods

The course will be mainly delivered through lectures given by the teacher but will include about 10% of interactive activities. Lectures will be delivered in Italian and will be 90% formal lectures. Alongside the lectures, about 2 hours will be dedicated to neuroanatomy exercises carried out through the illustration of three-dimensional models of the human brain and drawing exercises of the human brain, aimed at better acquiring the knowledge of anatomical markers and the three-dimensional arrangement of brain structures. About another 4 hours will be dedicated to interactive review sessions of anatomical and physiological topics, with simulations of answers to closed exam questions and the illustration of guided answers to open questions.

Assessment methods

The final examination is written, with optional oral at the student's request or at the request of the lecturer. The written exam comprises a section with multiple-choice questions and one open question. Multiple-choice questions are designed at ascertaining the extensive preparation on the course topics, and it consists in questions assessing the acquisition of knowledge of the neuroanatomy, neurobiology and neurophysiology of the human brain. The open question allows assessing the ability to expound on a topic covered in class, using an appropriate technical language. The evaluation criteria are: the number of correct answers to the multiple-choice questions, a comprehensive and timely answer at the open question. The optional oral test consists of an interview on the topics of the course.

International students (Erasmus program) may opt to answer the open question in English or to require to take the oral exam in English.

Textbooks and Reading Materials

Maravita. A., Fondamenti anatomofisiologici della attività psichica. Poletto Editore, 2020.

Texts for further study (optional): Felten D.L., Shetty A.N., Atlante di Neuroscienze di Netter. Elsevier, 2010 (also

available in English).

International students may adopt: Bear M.F., Connor B.W., Paradiso M.A., Neuroscience: Exploring the Brain. Publisher: Lippincott Williams (from IV edition and later)

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING