UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# COURSE SYLLABUS

# Neuropsychological Methods For The Study of Behavior

**2021-2-E2401P125**

## Learning area

PSYCHOLOGICAL FUNCTIONING: MODELS AND METHODS FOR ASSESSMENT

## Learning objectives

*Knowledge and understanding*

· Methodological approaches in clinical neuropsychology.

· Foundations of exam and neuropsychological diagnosis.

· The clinical neuropsychological exam.

· Psychometric instruments for the assessment of cognitive deficits: tests and scales.

· Clinical cases: patients with cognitive, emotional-motivational, and sensorimotor deficits, associated with brain structural damage or dysfunction.

· Basics of structural neuroimaging and of neuro-stimulation (brief basics) in neuropsychology.

*Applying knowledge and understanding*

· Analysis and critical discussion of neuropsychological cases.

· Diagnostic procedure in clinical neuropsychology.

## Contents

· Basics of methodological foundations of clinical neuropsychology, and of main behavioural, and structural neuroimaging diagnostic tools; essential basics about neuro-stimulation.

Presentation and discussion of clinical cases of brain-damaged patients illustrating main neuropsychological deficits, along with the description of their clinical and psychometric assessment (tests and scales). Students will gain a practical and realistic insight about various types of neuropsychological disorders, and their clinical presentation.

Practical training with the main psychometric tools (tests and scales) used for the assessment of cognitive deficits.

## Detailed program

· Basics of the methodological foundations of neuropsychology.

· The clinical neuropsychological examination.

· Assessment of acquired language disorders.

· Assessment of deficits of planning of voluntary movements.

· Assessment of deficits of attention.

· Assessment of deficits of memory.

· Assessment of deficits of object and face recognition.

· Assessment of neuropsychological dis-executive and behavioral deficits.

· Structural neuroimaging in neuropsychology.

. Neuro-stimulation in neuropsychology (brief basics).

## Prerequisites

A good background on the cognitive and emotional-motivational processes, and on their anatomo-functional basis in the undamaged brain (provided in the courses of Anatomo-physiological foundations of Psychic Activity, and of Physiological Psychology) will enable a more complete and aware use of the content of the course.

## Teaching methods

Theoretical introduction to the lab's topics, practical trainings with discussion of clinical cases and of work methodology, videos.

*During the Covid-19 emergency period, lessons will take place remotely with some events in the classroom.*

## Assessment methods

At the end of the laboratory, students will present and discuss, under the coordination and guidance of the teacher, previously selected materials (scientific papers and chapters about the discussed topics). The ability of critically analyzing the material and the creation of links with topics discussed during the laboratory will be the evaluation criteria.

"During the Covid-19 emergency, exams will be conducted according to the University's regulations regarding the COVID-19 emergency situation."

## Textbooks and Reading Materials

For a further knowledge of the topics:

# Vallar, G., & Papagno, C. (a cura di), *Manuale di neuropsicologia*, Terza Edizione. Bologna, Il Mulino, 2018.

# Bolognini, N., & Vallar, G. (a cura di), *Stimolare il cervello, Manuale di stimolazione cerebrale non invasiva*. Bologna, Il Mulino, 2015.

Detailed information on additional didactic material will be published in the e-learning web page, associated to it.