



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Neuropsychology

2324-1-F5108P001

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#### Learning area

PSYCHOLOGICAL FUNCTIONING: MODELS AND MEHODS FOR ASSESSMENT

#### Learning objectives

The course aims to provide basic information on neuropsychology understood as a scientific discipline that contributes to the study of the structure of the mind and the mind-brain relationship. The course is preparatory to that of Semeiotics and Neuropsychological Evaluation of the Adult in which Neuropsychology and its diagnostic tools are treated from a clinical perspective.

##### *Knowledge and understanding*

- Elements of history of neuropsychology
- Methodological foundations of neuropsychology
- Basic elements of neurology and neuroimaging, useful in neuropsychology.
- Foundations of the neuropsychological assessment: clinical exam and psychometric assessment.
- Main neuropsychological syndromes in the study of mental structure and mind-brain relationships.

##### *Applying knowledge and understanding*

- To promote the ability to understand and use neurological knowledge and data about patients, useful for clinical neuropsychology.

- To promote the ability to set up and perform a neuropsychological assessment.

To promote the ability to make diagnostic hypotheses about neuropsychological deficits for scientific research in the field of cognitive science and neuroscience.

## **Contents**

History and methods of neuropsychology; elements of neurology and neuroimaging; clinical neuropsychological exam and psychometric neuropsychological tests; main diseases responsible of neuropsychological disorders (elements); main neuropsychological syndromes brought about by focal and diffuse brain damage.

## **Detailed program**

- History of neuropsychology.
- Methodological foundations of neuropsychology: simple and double dissociation between symptoms and signs; anatomical and functional neuropsychological syndromes.
- Neurology and neuroimaging: anatomoclinical correlations in neuropsychology.
- Neuropsychological evaluation: clinical assessment.
- Psychometric neuropsychological tests: general principles.
- The main causes of neuropsychological deficits: cerebrovascular disorders, head trauma and dementias.
- The main neuropsychological syndromes in the study of the structure of the mind and of the mind-brain relationship.
- Disorders of oral language: aphasias, alexias and agraphias.
- Dyscalculia: number processing and calculation disorders (elements).
- Disorders of planning of voluntary movement (e.g., the apraxias).
- Memory disorders.
- Deficits of recognition and identification of objects, colours and faces: the agnosias.
- Deficits of spatial cognition: unilateral spatial neglect. Topographical disorientation.
- Disorders of attention.
- Disorders of executive processes. Neuropsychology of head injury.

## **Prerequisites**

It is strongly recommended that the student is familiar with the topics typically taught in the psychobiological and general psychology courses of the BA degree in psychology (for example, see the programs of the courses Anatomical-Physiological Foundations of Psychic Activity, Physiological Psychology; General Psychology I and II of the BA degree course called Psychological Sciences and Techniques of this University).

## **Teaching methods**

Room lessons, audiovisual material.

## Assessment methods

Erasmus students can contact the teacher to agree on the possibility of studying on a bibliography in English and / or the possibility of taking the exam in English

Written examination (30 multiple choice questionnaire) followed by an essay and if needed or requested by the student oral examination (optional).

A minimum score of 18/30 at the multiple choice questionnaire is needed to be further assessed and proceed with the examination.

In the multiple choice questionnaire, each question has four alternative answers, only one being correct. One point is given for each correct answer; 0 points are given for errors or omissions.

In the short essay, the student will write on one of two possible subjects corresponding to one of the main themes covered during the course. For example:

1. Aphasias and the Wernicke-Lichtheim model: heuristic power and limits of the model.
2. Principles of anatomical behavioral inference in neuropsychology: methods, advantages and limitations.

## Textbooks and Reading Materials

- Denes GF e Pizzamiglio L (Editors) Handbook Of Clinical And Experimental Neuropsychology. Psychology Press, 1998 ISBN 10: 086377542X ISBN 13: 9780863775420
- Gazzaniga M., Ivry R.B., Mangun G.R. Cognitive neuroscience: the biology of the mind. Fifth edition (2018).
- Materials made available by the professor on the website [www.eraldopaulesu.it](http://www.eraldopaulesu.it)

## Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION

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