# **Workshop: Neuropsychological Evaluation of Cognitive Disorders and Principles of Rehabilitation**

Prof. Maria Caterina Silveri

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The course aims to provide students with the theoretical basis and knowledge of the main models behind the functioning of cognitive processes, behavioural disorders and social cognition in adult patients with acquired brain damage; this is all aimed at facilitating the general clinical classification of the main syndromes associated with vascular- and neurodegenerative-based neurological diseases and head trauma. Students will have to know the social and health problems related to neurological disease associated with cognitive impairment, and those related to the home care of patients with brain damage (caregiver stress). Students will also have to know the general aspects of the treatments, primarily rehabilitative, of cognitive and behavioural deficits, and be able to interpret the context in which pharmacological intervention is necessary.

*Intended learning outcomes:*

At the end of the course, students will be able to: choose and apply the appropriate tool (tests, batteries, scales, questionnaires) for detecting and quantifying cognitive deficit in the various domains; orientate themselves in the interpretation of instrumental diagnostic investigation results (especially those of neuroimaging); apply the correction criteria of the raw scores obtained in the neuropsychological evaluation and interpret the results in a general clinical context; demonstrate the ability to plan a rehabilitation intervention, formulate the outcomes, and monitor the progress of the deficits; and, in general, demonstrate the ability to manage the complex clinical reality of patients with brain damage.

***COURSE CONTENT***

* Cognitive models of language, spatial cognition, memory, perception, praxis, executive functions, social cognition.
* Clinical and neuropsychological aspects of aphasias, disorders of spatial attention (neglect), disexecutive syndrome, agnosia, apraxia, disorders of short and long term memory, intelligence and social cognition disorders.
* Main neurological syndromes associated with cognitive impairment (dementia; Parkinsonism; cerebrovascular syndromes); head trauma
* Neuropsychological tests: application, quantification and interpretation; method of correcting scores; transformation into equivalent scores
* Planning of longitudinal controls and interpretation of the evolution; interpretation of prognostic factors
* Scales and questionnaires for the detection and quantification of behavioural disorders and social intelligence
* Basic knowledge of neuroimaging techniques and general knowledge of the interpretation of neuroimaging for diagnostic use
* Theoretical bases and rehabilitation principles of cognitive functions; main application techniques in the rehabilitation of aphasia, hemineglect and memory disorders.
* Monitoring tools for cognitive deficits, behavioural deficits and rehabilitation projects
* General health and social problems of the patient with brain damage and a cognitive deficit

***READING LIST***

G. Denes-L. Pizzamiglio-C. Guariglia-S. Cappa-D. Grossi-C.G. Luzzatti, *Manuale di neuropsicologia. Normalità e patologia dei processi cognitivi*, Zanichelli, 3rd edition, 2019.

G. Vallar - C. Papagno (edited by), *Manuale di Riabilitazione Neuropsicologica,* Il Mulino, 2022.

***TEACHING METHOD***

Frontal lectures with classroom exercises which involve the use of special materials to help students learn the methods of administering tests and scales, score correction, and interpretation of results; presentation of videos; diagnostic simulations; case discussions including the supporting tools for clinical diagnoses (in particular neuroimaging).

***ASSESSMENT METHOD AND CRITERIA***

Periodic check-ups, including requests to discuss clinical cases, on students' learning of the classroom topics; verification of the ability to adopt the appropriate neuropsychological tools (tests and batteries) in clinical diagnoses and to apply aphasia, neglect and memory rehabilitation techniques. There is one final mark which is expressed as either PASSED or FAILED.

***NOTES AND PREREQUISITES***

A general knowledge of clinical neuropsychology and functional neuroanatomy is required.

In case the current Covid-19 health emergency does not allow frontal teaching, remote teaching will be carried out following procedures that will be promptly notified to students.

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG, or on the Faculty notice board.