

COURSE DETAIL

NEW TRENDS IN NEUROSCIENCE

Country

Italy

Host Institution

University of Padua

Program(s)

Psychology and Cognitive Science, Padua

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Psychology

UCEAP Course Number

177

UCEAP Course Suffix**UCEAP Official Title**

NEW TRENDS IN NEUROSCIENCE

UCEAP Transcript Title

NEW TRNDS NEURO PSY

UCEAP Quarter Units

5.00

UCEAP Semester Units

3.30

Course Description

The course focuses on neuroimaging and neurostimulation techniques and their neuroscientific application for the study of interindividual brain differences in healthy and pathological populations, with a particular focus on forensic psychiatry. This course explores the fundamental concepts of neuroimaging, neurostimulation, and machine learning, and the main applications of these promising approaches to brain disorders. The course focuses in depth on each of these techniques, as well as on the advantages of their combined use for the study of the human brain connectome organization and its deviances. The course discusses theoretical knowledge on the following topics: 1) why are neuroimaging methods important in clinical settings; 2) how neuroimaging and neurostimulation techniques can be combined to study the patterns of information flow in the brain; 3) how machine learning methods differ from classical statistics; 4) what are the main machine learning methods used in clinical neuroscience; 5) how these methods can be used to investigate the neural basis of brain disorders in a research setting; 6) how these methods can be used to inform diagnostic and prognostic assessment in a clinical setting; 7) how the results obtained at the level of the group can be translated to the single individual; 8) how this approach can be helpful in clinical and forensic settings; 9) what do we mean by “multimodal approaches” and how can we use them to individualize the study in the brain; 9) how results should be interpreted; 10) how neuroscientific approach and classical psychiatry approach can run side by side. The course requires students to have basic knowledge of statistics, clinical neuroscience, neuropsychology, neuroanatomy, and psychiatry as a prerequisite.

Language(s) of Instruction

English

Host Institution Course Number

PSP5073004

Host Institution Course Title

NEW TRENDS IN NEUROSCIENCE

Host Institution Campus**Host Institution Faculty**

Psychology

Host Institution Degree

Second Cycle Degree in Cognitive Neuroscience and Clinical
Neuropsychology

Host Institution Department

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