HUMAN ELECTROENCEPHALOGRAPHY AD EVOKED POTENTIALS IN RESEARCH AND CLINICAL DIAGNOSIS

M-PSI/02, 1° anno, 6 crediti

Corsi di laurea / indirizzi:
> Lauree magistrali N.O. DM 17/2010 / Cognitive neuroscience and clinical neuropsychology (CN2)

Prof. Angrilli Alessandro
Prof. D'Avella Domenico
Prof. Dell'Acqua Roberto

Sede e calendario lezioni

Dati statistici votazioni esami

Teaching language
Inglese

Educational And Training Objectives
The course provides an in-depth introduction to methodological, theoretical, and clinical aspects subtended in the use of human electroencephalography (EEG) as a tool to monitor online event-related human cognitive processing and its pathological aspects. The training during the course includes a phase of direct apprehentship of electroencephalographic recordings and preliminary data analysis.

Pre-requisites
There are no formal prerequisites for attending the course. Students are however warmly invited to examine standard manuals (available at the Library of the School of Psychology of Padova) so as to have at least an idea of the basic principles and advantages in the use of direct neuroimaging techniques in research and clinical applications prior to the beginning of the course.

Course content
Unit I (14 hours; Prof. Angrilli): EEG methods and application in clinical diagnosis. Prof. Angrilli will introduce the class to basic technical aspects of the EEG recording and analysis technique, and their use in clinical diagnosis.

Unit II (14 hours; Prof. Dell'Acqua): EEG and event-related designs in Cognitive Neuroscience. Prof. Dell'Acqua will illustrate how eeg data can be used to disclose fine-grained processing architectures subtended in the execution of a range of cognitive tasks.

Unit III (14 hours: Prof. D'Avella): EEG and neurosurgery. Prof. D'Avella will illustrate applications of intra-cranial EEG recording to monitor neural activity in cerebral tissue affected by vascular/citoarchitectural disease or source of diseases like epilepsy.

Recommended reading
The manual of reference for the present course is:

Luck, S. J., & Kappeman, E. S. (2012). Event-related potential components. New York (NY): Oxford University Press. (pp. 642).

Students will receive further information about the selection of chapters in this manual that will be examined in class. Students attending the course for its entire duration (to be certified) will be dispensed from reading the manual for the mentioned selection of chapters will be replaced with a selection of scientific articles that will be indicated for each lesson and Unit.

Teaching methods
Teaching methods will consist of lessons in class and organized meetings in electroencephalographic laboratories.

Assessment methods

Type of examination: Written or oral
Written examination: Multiple choice and open questions

Teaching tools
Lessons in class will be delivered with the aid of Powerpoint presentations that will be made available to students upon request. Direct interactions with EEG facilities will be mediated by personnel staff under Proff. Angrilli's, Dell'Acqua's, and D'Avella's supervision.

COMUNICAZIONI AGLI STUDENTI (a cura del docente)
Nessuna comunicazione disponibile.