CCNM17-CN-101, CCNM17-CM-108:1: Cognitive Neuroscience
Course Description

Aim of the course

Aim of the course: The two main goals of the course are the demonstration of the methods of cognitive neuroscience, and the presentation of classical and current findings of cognitive and developmental neuroscience. The presentation of physical, biochemical and morphological bases, and historical accounts has the aim that students understand the choice of particular methods, and be able to assess the advantages and disadvantages of them. The presentation of methods is followed by an intensive review of the main findings of cognitive neuroscience both in the fields of cognition (perception, memory, consciousness, language, etc.) and emotion (face perception, prosody, etc.).
The unfolding of the interrelations of brain-cognition-behavior triad is completed by the review of the findings of developmental cognitive neuroscience. During the course, students are presented with new experimental paradigms coming from the interdisciplinary field of cognitive neuroscience, which may be useful both for theoretical work and clinical practice.

Learning outcome, competences
knowledge:

- To ensure students can read articles, understand the methods and interpret results.

attitude:

- is sensitive to and interested in noticing psychological phenomena and problems

skills:

- To provide an overview of traditional and cutting-edge experimental techniques.

Content of the course

Topics of the course

- History, Neurons, Networks, Basic Neuroanatomy
- Brain Lobes
- Neurons, Networks, Basic Neuro (cont.)
- Methods 1-2: EEG/EcoG
- Consciousness, Pathology (Coma), Altered States
- MEG: MEG: Sensory and Motor Function and Integration
- Epilepsy
- Stimulation (TMS / DBS)

Learning activities, learning methods:
Lectures and interactive discussions

Evaluation of outcomes

Learning requirements, mode of evaluation, criteria of evaluation:
requirements

- Attendance,
- 2 presentations
- 1 essay.

mode of evaluation: written exam
criteria of evaluation:

- quality and quantity of knowledge encomppasing the course

- quality of pracitcal exercises, homework, essays

Reading list

Compulsory reading list

- Gazzaniga, M. S. (Ed.). (2000). The New Cognitive Neurosciences, (2nd ed.). Cambridge, MA: MIT Press.
- Gazzaniga, M. S., Ivry, R. B., & Mangun, G. R. (2008). Cognitive neuroscience, (3rd ed.). New York: W. W. Norton.
- Nelson, C. A., & Luciana, M. (2001). Developmental Cognitive Neuroscience. Cambridge, MA: MIT Press.
- Baars, B. J., & Gage, N. M. (2010). Cognition, Brain, and Consciousness: Introduction to Cognitive Neuroscience. London: Academic Press.

Recommended reading list

- If any, it shall be specified in the course description for each semester.