psy230 - Neuromodulation of Cognition

Module label: Neuromodulation of Cognition
Module code: psy230
Credit points: 6.0 KP
Workload: 180 h
Used in course of study:
- Master’s Programme Neurocognitive Psychology > Master module
Contact person:
- Jochem Rieger

Entry requirements:
Enrolment in Master’s programme Neurocognitive Psychology.
Neuroscience students can take part on request.

Skills to be acquired in this module:
Goals of module:
The aim of this module is to provide students with a theoretical background on how cognitive functions can be altered via neuromodulation.

Competencies:
++ Neuropsychological / neurophysiological knowledge
+ interdisciplinary knowledge & thinking
++ experimental methods
+ ethics / good scientific practice / professional behavior
+ critical & analytical thinking
+ scientific communication skills

Module contents:
Students will be introduced to the concepts of neuromodulation and the application of theoretical knowledge of neurophysiology to the modulation of cognitive functions.

Part 1: Neuromodulation of cognition (lecture)
- Neurotransmitter systems of cognition
- Neuropharmacological intervention
- Neuroenhancement
- Neurofeedback
- Neurostimulation

Part 2: Neurofeedback (seminar)
- Neurofeedback in control and therapy
- EEG-Neurofeedback
- EMG-Neurofeedback
- Transcranial magnetic stimulation
- Deep brain stimulation
- Patient safety

Reader’s advisory:

Links:
Language of instruction: English
Duration (semesters): 1 Semester
Module frequency: The module will be offered every winter term.
Module capacity: 15
Module level: MM (Mastermodul / Master module)
Modulart: Wahlpflicht / Elective
Lern-/Lehrform / Type of program: Part 1: lecture; Part 2: seminar

Vorkenntnisse / Previous knowledge

Examination:
- Time of examination: during winter term
- Type of examination: The module will be evaluated with an oral
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<tr>
<th>Examination</th>
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<tbody>
<tr>
<td></td>
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<td>presentation in the seminar. Bonus for oral contribution.</td>
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<tr>
<td>Course type</td>
<td>Comment</td>
<td>SWS</td>
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<tr>
<td>Lecture</td>
<td>2.00</td>
<td>WiSe</td>
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<tr>
<td>Seminar</td>
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<td><strong>Total time of attendance for the module</strong></td>
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<td><strong>56 h</strong></td>
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- Lecture: 2.00 SWS, WiSe, 28 h
- Seminar: 2.00 SWS, WiSe, 28 h