inf974 - Human Computer Interaction and Brain Computer Interfacing

Module label: Human Computer Interaction and Brain Computer Interfacing
Module code: inf974
Credit points: 6.0 KP
Workload: 180 h

Used in course of study:
- Master's Programme Engineering of Socio-Technical Systems > Embedded Brain Computer Interaction

Contact person:
- Module responsibility
  - Jochem Rieger
  - Andreas Lüdtke
- Authorized examiners
  - Die im Modul Lehrenden

Entry requirements:

Skills to be acquired in this module

Professional competences:
The students:
- Human computer interaction (HCI) in its interdisciplinary requirements focusing on the perspective from neurocognitive psychology.
- Basic knowledge of Brain Computer Interfacing

Methodological competences:
The students:
- Will acquire basic knowledge of neuroimaging and data analysis techniques.
- Will acquire Methodological competences: required for deriving statistical models to link brain and cognition/behavior.
- Will acquire skills and knowledge to critically reflect basic science theories in naturalistic context.

Social competences:

Self-competences:
The students will have knowledge of common experimental designs, data acquisition, and analysis methods and will have an insight of how to chose appropriate methods for their specific experiment.

They are able to design and run a simple HCI/BCI experiment.

Module contents:
The module consists of a lecture and an exercise part:
Lecture:
- Background and concepts of cognitive psychology relevant for human computer interaction
- Sensation, perception, action
- Data acquisition and processing methods for brain computer interfacing.

Reader's advisory:

Links
Language of instruction: English
Duration (semesters): 2 Semester
Module frequency: Once a year
Module capacity: unlimited
Reference text: The module will start every summer term with part 1. Part 2 will be offered in the winter term.

Modullevel: AS (Akzentsetzung / Accentuation)
Modulart: Pflicht o. Wahlpfllicht / compulsory or optional
Lern-Lehrform / Type of program: V+TPS
Vorkenntnisse / Previous knowledge: Knowledge in statistical data analysis techniques and/or programming (e.g. Module N) is desirable
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<th>Examination</th>
<th>Time of examination</th>
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<th>Portfolio</th>
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<tbody>
<tr>
<td>Final exam of module</td>
<td>At the end of the lecture period</td>
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<th>SWS</th>
<th>Frequency</th>
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<td>SuSe or WiSe</td>
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Total time of attendance for the module 56 h