

Module Number 4c	Title: Cognitive Neuroscience: Functional Systems		
Module type: compulsory elective	Language: English	Group Size: 10 students	
Study semester: 2	Availability: summer semester	Duration: 1 semester	
Workload: 240 hrs	Credits: 8CP	Contact time: 50 hrs	Independent Study: 190 hrs
1	Courses d) Lectures: 2 PPW e) Seminar: 1 PPW		
2	Intended learning outcomes Upon completion of this module the students are able to describe the localization and functioning of a variety of important human brain systems that implement, for instance, the control of movement, perception, memory or emotions. They are capable to explain and interpret relevant phenomena, experimental paradigms and theoretical models as well as key findings pertaining to these functional systems. The students will be able to plan, develop, evaluate and interpret experiments and correlational studies on these brain systems, employing methods previously introduced in Module 3c.		
3	Content Lecture: <i>Cognitive neuroscience: from brain to behaviour</i> Functional systems of the human brain: the motor system, control of movement and action planning, the somatosensory system and pain, perception and attention, memory systems, emotion and motivation, executive functions and decision-making, the language system, social neuroscience. This is complemented by an introduction to interindividual differences and psychometric assessment as well as select developmental and clinical aspects. Recommended reading: <ul style="list-style-type: none"> ○ Baer, MF, Connors, BW, Paradiso MA: Neuroscience – Exploring the Brain. Lippincott Williams and Wilkins, USA 2007 ○ Squire LR, Berg D, Bloom FE, DuLac S, Ghosh A, Spitzer NC: Fundamental Neuroscience. Elsevier, Amsterdam 2008 Seminar: <i>Analysis and organization of cognitive systems</i> Zooming in on particular functional systems of the brain in health and disease and empirical approaches to their investigation. Students will present and critically discuss with the audience a paper exemplifying one of the functional systems and an empirical approach to studying them.		
4	Teaching methods Lecture and seminar		
5	Prerequisites Formal: Successful completion of module 1. Proficiency in English level B2 of Common European Framework of Reference for Languages (CEFR); Bachelor degree in biology, psychology or a related field With regards to content: Basic knowledge of neuroanatomy and neurophysiology are a prerequisite. Successful completion of module 3c (or equivalent knowledge about neuroscientific methods).		

6	Examination type: Cumulative Examination: 1. Oral presentation (e.g. Powerpoint) and moderation of a discussion in seminar (45 minutes, 33.3% of total grade). 2. Written exam (multiple-choice format) on lecture content (90 minutes, 66.7% of total grade).
7	Requirements for award of credit points Regular and active participation in the lecture and seminar, including oral presentations in the latter.
8	Module applicability The module is closely related to module 3c.
9	Assessment The mark given will contribute to the final grade in proper relation to its credits.
10	<u>Module convenor and main lecturers</u> <u>Prof. Dr. Simon Eickhoff, Dr. Robert Langner</u>
11	Further information The regular attendance at the lectures is strongly recommended. The content of the lectures (material presented both viva voce and on slides) will be examined in a written exam at the end of the module.