

Course Guide – Master Cognitive Science

Summer 2018

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Table of Contents

For Students from all Semesters	2
Academic Writing Support	2
First Year Program	3
C. Topics Selection	3
C1. Social Cognition & Meta-Science	3
C2. Perception and Action	6
C3. Memory, Learning and Decision Making	8
C4. Language, Logic and Categories	13
AM. Advanced Methods	16
AM1. Theory Formation and Conceptual Analysis	16
AM2. Advanced Analysis of Language and Logic	17
AM3. Behavior Studies	19
AM4. Computational Modeling	21
AM5. Special Methods in Neuroscience/Genetics	23
AM6. EEG-training	25
D1. Free Selection	27
Second Year Program	37
I. Interdisciplinary Research Module	37
I1. Focus Module Philosophy	37
I2. Focus Module Psychology	39
I3. Focus Module Computational Modeling	42
I4. Focus Module Neuroscience	44

Enrollment for Courses

Students in the first semester will be registered by the lecturers in the first session of each course. Advanced students (from the second semester on) are requested to register with the university's **VSPL**-system (info: vspl-support@rub.de) and should be aware of earlier VSPL-deadlines. Exceptions include the courses held by Wiskott, Schöner and Würtz. Here, there will be **no VSPL-registration**, but a manual enrollment in the first session.

Please notice that one and the same course can only be used to be part of one module for each student. Double use of the same course is not allowed.

FOR STUDENTS FROM ALL SEMESTERS

Academic Writing Support



Writing Support Sessions for students of Master Cognitive Science Summer 2018

Who can take part?	All students of the Master Cognitive Science programme at the RUB, no matter which semester they are in.
Do I receive any credit points for these classes?	No, participation in the coaching session(s) is voluntary and no credit points are awarded.
How does it work?	You are welcome to make an appointment to discuss your individual needs related to academic writing. Each coaching session lasts ca. 45 minutes. You need to send your text (up to 10 pages long) to the teacher in advance, not later than a week before the appointment.
When do the sessions take place?	The one-to-one coaching sessions take place in the summer term each Tuesday at 8.15am. Use the Doodle: https://uanuhr.doodle.com/poll/2ae6ra55dfakxwu4 to make an arrangement and book a slot for you. Should none of the dates suit you, please write an email to anna.soltyska@rub.de
How can I register for a session of my choice?	Complete the Doodle and write an email to the teacher no later than a week before a chosen session.
Where do the sessions take place?	In room SH 2/216 (<i>Studierendenhaus</i> , second floor)
How can I benefit from individual coaching sessions?	<p>If you need assistance while</p> <ul style="list-style-type: none"> • structuring your assignment • developing your argument • integrating sources into your writing • expressing yourself clearly and accurately <p>then book a coaching session!</p> <p>Please note that coaching sessions do not offer a detailed proof-reading or correction service or advice on content. Contact your supervisor or thesis advisor to discuss matters related to your discipline.</p>
Who offers the coaching sessions?	Anna Soltyska, Lecturer in English for General and Specific Academic Purposes at the University Language Centre (ZFA).
Who can I contact if I have any questions?	Anna Soltyska - anna.soltyska@rub.de , Tel. 0234-32-26559

www.zfa.rub.de

FIRST YEAR PROGRAM

C1.

Social Cognition & Meta-Science

SEMINAR

MORALITY, HAPPINESS AND WELL-BEING (030 087)

PASCALE WILLEMSSEN

TERM:	Summer 2018
MEETING TIME:	Tuesday, 14:00 – 16:00, first Meeting: 10.04.2018
ROOM:	GABF 04/187
CP:	6

The concepts of happiness and well-being have interested philosophers of all era, but recently this field of study has gained more attention because of the interest of social scientists. Happiness and well-being researchers address questions such as “What is happiness?”, “How happy are people with their lives?” and “What makes people’s lives go well?” In this seminar, we will try to answer those questions with the help of philosophical and psychological literature on happiness and well-being. The seminar focusses on the nature, measurement, and moral significance of well-being. It provides an introduction of the various accounts on happiness and well-being in philosophy and psychology. Moreover, well-being has been a fundamental concept also in moral philosophy. When discussing well-being, moral philosophers refer to the elements that constitute the good life. Most moral philosophers agree that there is a strict connection between the good life and the right action. However, what is the connection between well-being and morality is still an open question that we will also investigate in this seminar. So in addition to analysing the concept of well-being itself, we will also discuss how it can be used to understand what is morally right and wrong.

We invite students with various philosophical and psychological backgrounds. The seminar will be very interdisciplinary, providing introductions to the relevant debates in the respective fields. The seminar will be held in English.

C1.

Social Cognition & Meta-Science

PERCEPTION,

*SEMINAR***THEORIES OF SELF-CONSCIOUSNESS: THE ROLE OF ACTION AND MEMORY (030 082)**

PRF. ALBERT NEWEN

TERM:	Summer 2018
MEETING TIME:	Thursday, 8:30 – 10:00, first Meeting: 10.04.2018
ROOM:	GA 04/187.
CP:	6

In this seminar, we will explore theories of self-consciousness. This includes a variety of phenomena which are part of or closely related to self-consciousness, namely the sense of agency, of ownership and the phenomenon of perspectivity as well as the role of an autobiographical self and its development. Especially concerning the latter we have to account for the role of memory for our autobiographical self.

This seminar is a research-oriented seminar which especially enables the participants to develop a project which leads into a BA-thesis or a master-thesis. It has a focus in philosophy but will involve some psychological texts as well. The main topic is the discussion of modern theories of human self-consciousness. Self-consciousness can be defined as the ability to consciously represent one's own states, especially (but not only) mental states, as one's own (Newen, Vogeley 2003). Concerning self-consciousness, we can distinguish four central questions which allow us to illustrate the wide range of this central debate:

The epistemological question: Do we have a privileged access to our own mental phenomena such that only we can know with certainty which mental phenomena we have?

The ontological question: Is there a self as an ontologically irreducible entity?

The cognitive question: How can we investigate the natural basis of self-c. with the methods of empirical psychology and cognitive neuroscience?

The question about personal identity: What is the criterion of being a person and of remaining the same person?

In the seminar we will discuss texts concerning all dimensions of human self-consciousness.

Furthermore, we will discuss the role of episodic memory for a self-model: how can we adequately describe the interaction of a narrative self, i.e. the autobiographical stories a person tells about herself, with her episodic memories? On the one hand, episodic memories are constructed in line with and thus constrained by a narrative self, on the other hand, the narrative self is at least partially constituted by the episodic memories a person has. How can we account for this interdependence and account for the narrative self and its development?

Details for receiving a certificate will be presented at the beginning of the seminar. Bachelor-students will receive 4 credit points for a determined package of work while master students will receive 6 credit points for a higher workload. The workload involves the standard tools of oral presentations and essay writing. Presentations and discussions will be in English.

C1.

Social Cognition & Meta-Science

061)

BLOCKSEMINAR
INTEGRATED HISTORY AND PHILOSOPHY OF SCIENCE (030)

DR. DUNJA SESELJA

TERM:	Summer 2018
MEETING TIME:	12.-19.04., 24.05., 06.-07.07.2018: 16 – 20h
ROOM:	GA 04/187.
CP:	6

The method of historical case studies is one of the central methodological approaches employed by philosophers of science. As Imre Lakatos famously put it: "Philosophy of science without history of science is empty; history of science without philosophy of science is blind." But how and why do we conduct historical case studies? Which philosophical questions can benefit from such inquiry, and which conceptual tools can help us to formulate fruitful answers to these questions?

In this course students will learn the basics of Integrated History and Philosophy of Science (HPS). In particular, they will learn how to conduct historical case studies. The seminar will consist of three parts:

1. Introductory classes (throughout April, each Thursday 14:00–18:00): during this part of the course we will discuss some paradigmatic papers in the field of HPS, as well as philosophical problems frequently thematized within this literature (such as, scientific rationality, scientific objectivity, scientific pluralism, etc.);
2. Case studies (May–June): at the end of April students will choose a historical case study on which they will work for the remainder of the course. A class where we will discuss the progress of this work will be scheduled for May (to be agreed upon at our first meeting, on April 12).
3. Presentations (July): students will present results of their work on historical case studies during the remaining block classes in July. The exact timing of the block classes will be agreed upon at our first meeting, on April 12, 2018.

C2.

Perception & Action

COGNITION

LECTURE & EXERCISE
AUTONOMOUS ROBOTICS: ACTION, PERCEPTION, AND
(310 501 & 310 511)
 PROF. GREGOR SCHÖNER

TERM:	Summer 2018
LECTURE:	Thursday, 14.15 – 16.00 (first meeting: 12.04.2018)
EXERCISE:	Thursday, 16.15 – 17.00 (first meeting: 19.04.2018)
ROOM:	NB 3/57
CP:	6

Neuroinformatics is concerned with the discovery of new solutions to technical problems of information processing. These solutions are sought based on analogies with nervous systems and the behaviour of organisms. This course focuses on three exemplary problems to illustrate this approach:

- (a) Artificial action (autonomous robotics);
- (b) Artificial perception (robot vision);
- (c) Artificial cognition (simplest cognitive capabilities of autonomous robots such as decision making, memory, behavioural organization). The main methodological emphasis is on nonlinear dynamical systems' approaches and dynamic (neural) fields.

C2.

Perception & Action

084)

SEMINAR
EXPLAINING THE MIND: NEW MECHANISTS' ACCOUNTS (030

LENA KÄSTNER

TERM:	Summer 2018
LECTURE:	Wednesday, 14 – 16 (first meeting: 11.04.2018)
ROOM:	GA 03/46
CP:	6

In 2000, Peter Machamer, Lindley Darden and Carl Craver published their seminal paper *Thinking About Mechanisms*. It triggered an avalanche: suddenly, it seems, everyone in contemporary philosophy of science was talking about mechanisms and mechanistic explanations. Machamer, Darden and Craver, however, were not the only ones having thought about mechanisms. Stuart Glennan, Bill Bechtel and Rob Richardson had also been discussing mechanisms in the context of causation and scientific discovery. Together, these philosophers launched what might collectively be referred to as *The New Mechanical Philosophy*. At the heart of the new mechanists' project is the idea that phenomena in the world result from certain entities working together in specific ways. Craver (2006) prominently applied this approach to the neurosciences. Meanwhile, mechanistic accounts have been developed for many different special sciences (e.g. molecular biology, sociology, cognitive science). Departing from this, Glennan (2017) presents the *New Mechanical Philosophy* as a highly general account of science and nature. In this class, we will look into the new mechanists' accounts. We will be looking into different conceptions of mechanisms and discuss Glennan's more general account in detail.

C3.

Memory, Learning & Decision Making

*LECTURE & EXERCISE***COMPUTATIONAL NEUROSCIENCE: VISION AND MEMORY****(310 504 & 310 514)**

PROF. LAURENZ WISKOTT

TERM:	Summer 2018
LECTURE:	Tuesday, 12 – 14, First Meeting: 15.05.2018
EXERCISE:	Tuesday, 10:30 – 12:00, First Meeting: 29.05.2018
ROOM:	NB 3/57 (both, lecture & exercise)
CP:	6

This lecture presents models of self-organization in neural systems, in particular addressing vision (receptive fields, neural maps, invariances, attention) and associative memory (Hopfield network).

!!!Lecture and exercise take place also within the second and third week of the semester break (31.07. & 07.08.)!!!

C3.

Memory, Learning & Decision Making

SEMINAR
DISCOURSE IN EPISODIC MEMORY (310 524)
PROF. SEN CHENG

TERM: Summer 2018
MEETING TIME: Monday, 14:00 – 16:00, First Meeting: 09.04.2018
ROOM: NB 3/72
CP: 3

When we remember events from our lives, whether they are the once-in-a-lifetime or everyday kind, we use our episodic memory. Although a small region of the brain called the hippocampus was identified to be important for episodic memories a long time ago, the nature and neural basis of episodic memory remain unclear. This class will employ a novel, highly interactive format to introduce the students to the cutting edge of the research into episodic memory. Students will be involved in choosing the literature discussed in class and discuss their views with an invited speaker who will also give a scientific talk. Prerequisites: knowledge of learning and memory at bachelor level

Requirements: 66% attendance, presentations, active participation

Max. 15 students

C3.**Memory, Learning & Decision Making**

SEMINAR
DISCOURSE GRID CELLS (118 165)
PROF. NIKOLAI AXMACHER

TERM:	Summer 2018
MEETING TIME:	Tuesday, 10:00 – 12:00, First Meeting: 10.04.2018
ROOM:	GAFO 05/609
CP:	t.b.a.

Im entorhinalen Cortex von Tieren und Menschen wurden "grid cells" (Rasterzellen) nachgewiesen, die eine zentrale Rolle für die räumliche Navigation und möglicherweise auch für das Gedächtnis spielen. Für die Entdeckung dieser Zellen wurde 2014 der Nobelpreis verliehen. Sie können direkt nur tierexperimentell untersucht werden, aber indirekt auch beim Menschen mittels fMRT. In diesem Diskurs sollen anhand ausgewählter Artikel die Mechanismen und Funktionen von grid cells diskutiert werden.

C3.**Memory, Learning & Decision Making**

SEMINAR
DISCOURSE ENGRAMM (118 163)
PROF. NIKOLAI AXMACHER

TERM:	Summer 2018
MEETING TIME:	Thursday, 10:00 – 12:00, First Meeting: 12.04.2018
ROOM:	GAFO 05/609
CP:	t.b.a.

Die Repräsentation spezifischer Inhalte im Gedächtnis wird als "Engramm" bezeichnet. Während es lange nicht möglich war, Engramme direkt zu messen, gelang vor einigen Jahren mit modernsten experimentellen Methoden ein Durchbruch bei der Forschung in Nagetieren. Können Engramme auch bei Menschen mittels fMRT oder EEG gemessen werden, z.B. mittels multivariater "pattern classification" Methoden? Diese aktuelle Forschungsfrage soll anhand ausgewählter Artikel diskutiert werden.

C3.**Memory, Learning & Decision Making***LECTURE***COGNITIVE NEUROSCIENCE OF MEMORY (118 128)**

PROF. NIKOLAI AXMACHER

TERM:	Summer 2018
MEETING TIME:	Wednesday, 10:00 – 12:00, First Meeting: 26.04.2018
ROOM:	GAFO 05/609
CP:	t.b.a.

Vorlesung zur Kognitiven Neurowissenschaft des Gedächtnisses. Die kritische Auseinandersetzung mit den Lerninhalten in Form von Diskussionen ist ein zentrales Lernziel und geht in die Bewertung mit ein.

C4.

Language, Logic & Categories

SEMINAR
CONCEPTS (030 089)
 PROF. MARKUS WERNING

TERM:	Summer 2018
MEETING TIME:	Thursday, 16-18 (First Meeting: 12.04.2018)
ROOM:	GA 04/187
CP:	6

Mental concepts are the most fundamental ontological postulate in theories of the mind. They play a central role not only in the philosophy of mind and language, but also in psychology, artificial intelligence and cognitive neuroscience. Mental concepts are assigned a threefold explanatory role: (i) as providers of perceptual categories, (ii) as providers of cognitive content, and (iii) as providers of linguistic meaning. It is commonly assumed that their content is compositional.

In the first part of the seminar, the leading theories of concepts will be discussed: the classical theory, prototype and exemplar theory, the theory-theory, as well as atomism. In the second part of the seminar a more general question is asked: Are mental concepts a natural kind? Do they form a class of entities that subserves relevant inductive and explanatory purposes and are likely to share a large number of properties because of some underlying uniform causal mechanism? In the third part of the seminar, the more recent view that concepts are embodied and consist in sensorimotor emulations rather than symbols will be discussed. Finally, we will pay special attention to abstract concepts and how they might be dealt with in an embodied account.

Aside from active participation, participants will be expected to give a presentation in English. Assistance regarding the English language will be provided.

Literature

- Margolis, E. and Laurence, S. (Eds., 2000). *Concepts: Core Readings*. Cambridge, MA: MIT Press.
 Fodor, J. (1998). *Concepts: Where Cognitive Science Went Wrong*. Oxford: Oxford University Press.
 Machery, E. (2009). *Doing Without Concepts*. Oxford: Oxford University Press.
 Werning, M., Hinzen, W., & Machery, M. (Eds., 2012). *The Oxford Handbook of Compositionality*. Oxford: Oxford University Press.

C4.

Language, Logic & Categories

088)

SEMINAR
COMPOSITIONALITY IN LANGUAGE, MIND, AND BRAIN (030

PROF. MARKUS WERNING

TERM:	Summer 2018
MEETING TIME:	Thursday, 12 – 14, First Meeting: 12.04.2017
ROOM:	GA 04/187
CP:	6

Compositionality is a key concept in linguistics, the philosophy of mind and language, and throughout the cognitive sciences. Understanding how it works is a central element of syntactic and semantic analysis, and a challenge for models of cognition. In this seminar, we will read papers on the state of the art in all aspects of the subject from every relevant field. They reveal the connections in different lines of research, and highlight its most challenging problems and opportunities. The force and justification of compositionality have long been contentious. First proposed by Frege as the notion that the meaning of an expression is syntax-dependently determined by the meaning of its parts, it has since been deployed as a constraint on the relation between theories of syntax and semantics, as a means of analysis, and, more recently, as underlying the structures of representational systems such as mental concepts, computer programs and neural architectures. This seminar explores these and many other dimensions of one of the most exciting fields in the study of language and cognition.

Aside from active participation, participants will be expected to give a presentation in English. Assistance regarding the English language will be provided.

Literature:

Werning, M., Hinzen, W., & Machery, M. (Eds., 2012). *The Oxford Handbook of Compositionality*. Oxford: Oxford University Press.

C4.**Language, Logic & Categories**

SEMINAR
TELEOSEMANTICS (030 069)
PROF. TOBIAS SCHLICHT

TERM:	Summer 2018
MEETING TIME:	Thursday, 10:00 – 12:00, First Meeting: 12.04.2018
ROOM:	GABF 04/358
CP:	6

Teleosemantic theories of mental content are proposals to solve the task of naturalizing intentionality. Intentionality is the feature of our mental states like perceptions, beliefs and desires, to be about or directed at something. Since it is assumed that such mental states have representational content, the question arises how that content is determined. Teleosemantic theories attempt to explain representations and their content in terms of biological function. The general idea is that biological systems like us have evolved specific mechanisms with the function to represent. As all functional mechanisms, such structures can fail to perform their function, hence misrepresentation is explained in terms of malfunction of naturally evolved mechanisms (Millikan 1984, 1995, 2004; Dretske 1986).

In this seminar we will read and critically discuss the latest book-length development of a teleosemantic approach to content from Karen Neander.

AM. Advanced Methods

Advanced methods are usually studied in the second semester. One exception is the "fMRI"-course which is only offered in the winter. Students who already have basic knowledge in cognitive neuroscience can choose to learn the "fMRI"-technique in the first semester. Necessary background: basic knowledge in cognitive neuroscience. The fMRI-seminar must be integrated into the course program during the first or the third semester; in the case you want to learn the fMRI –technique in the first semester, an individual application for the course is necessary: boris.suchan@rub.de.

The laboratory-class “Neural substrates of memory function” is a flexible whole day course that can be integrated whenever a student is free to do so; usually it only makes sense in the semester breaks.

Further advanced methods can be found in the program from the last summer semester on our webpage: http://www.ruhr-uni-bochum.de/philosophy/mcs/program_courses.html. They will again be offered in the upcoming summer semester.

AM1.

Theory Formation and Conceptual Analysis

SEMINAR

**INTRODUCTION TO EXPERIMENTAL PHILOSOPHY OF
RESPONSIBILITY (030 086)**

PASCALE WILLEMSSEN

TERM:	Summer 2018
MEETING TIME:	Thursday, 14:00 – 16:00, First Meeting: 12.04.2018
ROOM:	GA 03/46
CP:	6

Over the last three decades, a new approach to philosophical problems has gained much attention. Experimental philosophers address philosophical questions such as “What is causation”, “What does it mean to be morally good” or “What does it mean to know something” with the help of empirical research methods from psychology, sociology, anthropology, and related disciplines. This seminar provides an introduction to the methods of experimental philosophy. During the course, we will discuss how experiments can be used to gain insights into philosophical problems. We will cover the basics of experimental design and the analysis and interpretation of empirical data.

The rapidly growing body of literature on responsibility will provide the framework for this seminar. The term “responsibility” is extremely vague and used in quite different ways. In particular, it can be used to determine legal accountability (when we say “We should hold him responsible for his crimes”), to pick out someone or something as the cause of an event (“The weather was responsible for the tube delays this morning”), or to describe an agent’s blameworthiness (“She is responsible for hurting his feelings”). Recent empirical research has shown that the three kinds of responsibility just mentioned often interact in interesting and unexpected ways. In this seminar we will read and discuss this research. In addition, students will be given a chance to develop their own experiments and conduct empirical research on the topic.

AM2.

Advanced Analysis of Language and Logic

*LECTURE***EPISTEMIC LOGIC (030 006)**

PROF. HEINRICH WANSING

TERM:	Summer 2018
MEETING TIME:	Tuesday, 14.00 – 16.00, First Meeting: 10.04.2018
ROOM:	???
CP:	6

Epistemic Logic is the logic of operators such as “agent a knows that”, “agent a believes that” (doxastic logic), “the group of agents G knows that”, and “it is common knowledge that”. Epistemic logic is or ought to be related to epistemology, the general philosophical theory of knowledge. In this introduction to epistemic logic we will first deal with some fundamental topics in epistemology, namely the problem of defining the notion of knowledge and approaches to the concept of epistemic justification. In a second step, the modal logic of knowledge and belief will be introduced. This approach is confronted with a number of problems referred to as problems of logical omniscience. In a third step, familiarity with the modal logic of knowledge will enable us to consider the so-called knowability paradox. This paradox has received much attention in the debate between realistic and anti-realistic conceptions of truth. Also, the notion of common knowledge will be introduced and discussed. Finally, the logical analysis of knowledge will be refined and brought in closer connection with general epistemology by considering so-call justification logics. These systems extend the logical analysis of knowledge by explicitly incorporating a formal representation of justification. We shall also look at dynamic epistemic logic, the study of modal logics of model change. Credits can be obtained by passing an oral examination or writing an essay.

AM2.

Advanced Analysis of Language and Logic

*SEMINAR***INTRODUCTION TO FORMAL EPISTEMOLOGY (030 092)**

JUN. PROF. PETER BRÖSSEL

TERM:	Summer 2018
MEETING TIME:	Thursday, 10.00 – 12.00, First Meeting: 12.04.2018
ROOM:	GA 04/187
CP:	6

Formal epistemology studies the same topics as “mainstream epistemology” but it employs formal tools and methods from mathematics and science to explore them. (It is for this reason that formal epistemology is a truly interdisciplinary enterprise that is relevant not only for philosophy but also for psychology and cognitive science, economics and sociology, and scientific methodology in general.) This seminar provides an introduction into the tools and methods of formal epistemology and some of the topics concerning which this approach has been applied with great success, among them: confirmation theory, degrees of belief and its relation to full belief, rational reasoning, rational decisions, and scientific knowledge. In addition, the seminar explores the relevance of formal epistemology for psychology and cognitive science by focusing on Bayesian theories of perception, cognition and decision and the methodological questions that arise in these disciplines from their usage of normative theories of rational reasoning.

AM3**Behaviour Studies**

BLOCKSEMINAR
NEURODEVELOPMENTAL DISORDERS (118 146)
JUN. PROF. SARAH WEIGELT

TERM:	Summer 2018
TIME & ROOM:	04.05., 9 – 17 & 05.05. 9 – 18 (GAFO 03/252) preliminary meeting: 11.04., 16 – 18 (GAFO 04/425)
CP:	3

In this seminar you will get to know various neurodevelopmental disorders. We will discuss their symptomatology and underlying causes as well as diagnostic, preventive and interventive approaches. The seminar will take place as a block on Friday May 4th and 5th 2018 between 9am and 5pm; the organizational meeting will be held on Wednesday 11.4.18 from 4-6pm. The course will be taught in English.

AM3**Behaviour Studies***SEMINAR***DISCOURSE: DEVELOPMENTAL NEUROPSYCHOLOGY (118 146)**

JUN. PROF. SARAH WEIGELT

TERM:	Summer 2018
MEETING TIME:	Thursday, 8:30 – 10:00, first meeting: 12.04.2018
ROOM:	GAFO 04/425
CP:	3

In this seminar we will read and discuss current publications in the field of Developmental Cognitive Neuroscience and Neuropsychology. The course will be taught in English.

AM4.

Computational Modeling

*LECTURE & EXERCISE***MATHEMATICS FOR MODELING AND DATA ANALYSIS****(310 503 & 310 513)**

PROF. LAURENZ WISKOTT

TERM:	Summer 2018
LECTURE:	Thursday, 12 – 14, First Meeting: 17.05.2018
EXERCISE:	Thursday, 10:30 – 12:00, First Meeting: 07.06.2018
ROOM:	NB 3/57
CP:	6

This course covers mathematical methods that are relevant for modeling and data analysis. Particular emphasis will be put on an intuitive understanding as is required for a creative command of mathematics. The following topics will be covered: Functions, Hilbert-Spaces, matrices as, transformations, systems of linear differential equations, qualitative analysis of nonlinear differential equations, Bayes theory, multiple integrals.

!!!Lecture and exercise take place also within the second and third week of the semester break (02. & 09.08.2018)!!!

AM4.

Computational Modeling

*SEMINAR***PROGRAMMIEREN IN MATLAB / PROGRAMMING IN MATLAB****(118155)****DR. ROLAND PUSCH**

TERM:	Summer 2018
MEETING TIME:	Thursday, 16:00-18:00, First Meeting: 12.04.2017
ROOM:	GAFO 04/615 (Medienraum)
CP:	t.b.a.

This course will be held in German language, but there will be a **second group in English language**, if there are enough interested students. So if you would like that to happen, please apply early.

In dem Projektseminar nehmen die Studierenden an einem Forschungsprojekt teil und gewinnen einen Einblick in die Versuchsdurchführung, Datenanalyse und -interpretation. Im Vordergrund steht dabei die Einführung in die Programmierung mit Matlab, die in wöchentlichen Sitzungen stattfindet und von zeitintensiven Hausaufgaben begleitet wird. In den Seminarsitzungen werden die Studierenden eigene Versuche entwerfen, programmieren und durchführen. Die erhobenen Daten werden die Studierenden mit ihren neu gewonnenen Programmierkenntnissen in Matlab auswerten. In einem separaten Blocktermin wird das Projekt inhaltlich erarbeitet. Am Ende werden alle drei Aufgabenbereiche in einem Bericht zusammenlaufen, in dem die inhaltlichen Aspekte des Projekts, die erhobenen Daten und deren Auswertung beschrieben werden. Rückfragen bitte an: roland.pusch@rub.de/jonas.rose@rub.de Raum: Medienraum GAFO 04/615 Do, 16.00 - 18.00, plus Blockveranstaltung (am Wochenende)

AM5.**Special Methods in Neuroscience/Genetics***LECTURE***COGNITIVE NEUROSCIENCE OF MEMORY (118 128)***PROF. NIKOLAI AXMACHER*

TERM:	Summer 2018
MEETING TIME:	Wednesday, 10:00 – 12:00, First Meeting: 26.04.2018
ROOM:	GAFO 05/609
CP:	t.b.a.

Lecture concerning the cognitive neuroscience of memory. Critical discussions of central topics is a main goal of this lecture and will be part of the grading.

AM5.**Special Methods in Neuroscience/Genetics***BLOCKSEMINAR***NEUROMODULATION OF COGNITION (118 146)****DR. LORENZA COLZATO**

TERM:	Summer 2018	ROOM:
MEETING TIME:	08.06.2017, 14:00 – 18:00; 09-10.06.2017, 09:00 – 18:00 15.06.&17.06.: GAFO 03/252; 16.06.: GAFO 04/271 T.B.A.	CP:

Neuromodulation is the process in which several classes of neurotransmitters in the nervous system regulate diverse populations of neurons. In recent years, there has been a considerable increase in interest in how cognition is shaped by neuromodulation and the key roles of several transmitter systems were identified. This course is intended to review and discuss state-of-the-art developments in neuromodulation, covering issues like neural entrainment [neurofeedback, binaural beats, transcranial alternating current stimulation (tACS)], the role of dopamine in executive functions and norepinephrine in visual attention. The final grade will be based on individual student presentation, writing a scientific blog (example: <http://www.libcblog.nl/articles/flexibility-and-persistence-a-trade-off-fit-for-robots>) and writing a review article (example: <http://journal.frontiersin.org/article/10.3389/fpsyg.2015.01890/abstract>). The best blog will be published online. The course will be given as a block course over one weekend. The course language is English. All assignments will be checked for plagiarism. Plagiarism is a form of fraud and entails violating the intellectual property of someone else. Plagiarism means you take words, thoughts, analyses, reasoning, images, that belong to someone else and present them (knowingly or not) as your own. Since plagiarism is cheating, and because plagiarism by definition undermines the scientific enterprise, cases of plagiarism are taken very seriously by the university community and are punishable by sanctions.

AM6.**EEG-training**

SEMINAR & PRACTICAL COURSE
ANGEWANDTE NEUROPSYCHOLOGISCHE METHODEN /
ADVANCED EEG-ANALYSIS (118 157, 118 158)
 PROF. NIKOLAI AXMACHER, PROF. BORIS SUCHAN

TERM:	Summer 2018		
SEMINAR 1 & LAB:	21.04.18 + 22.04.18	09.00 – 18.00	GAFO 05/609
	16.06.18 + 17.06.18	09.00 – 18.00	GAFO 05/609
	Preliminary meeting: 06.04.2018, 14-16!		
SEMINAR 2:	Monday, 10:00 – 12:00 <IN GERMAN>, First Meeting: 09.04.2018		
CP:	9		

Dear students,

concerning EEG-courses, please make early decisions and contact the lecturers running the courses: Please notice the entry conditions of the courses.

There are three levels with which you can study the EEG-method.

1. For German speaking students: If you want to be intensely informed about EEG method but do not plan to use it for the master thesis project, then it is recommended that you participate in seminar 2 only.
2. If you plan to use EEG-methods for your master thesis project, then you are supposed to participate in the following package of seminar and laboratory course, i.e. at least seminar 1 (offered by Prof. Axmacher/Hucke/Barth) and laboratory course (offered by /Prof. Axmacher/Hucke/Barth)
3. You may specialize very intensely in EEG-methods, then you can combine all three courses.

Seminar 1: “Angewandte neuropsychologische Methoden EEG” (118 153) Prof.Axmacher/Hucke/Barth

The seminar course stands in direct relation to the laboratory course with the same name (also 2 SWS). Participation in both modules is mandatory.

The goal is to relay the ability to develop further research questions in cognitive neuroscience based on published neuropsychological literature, and to develop, independently conduct, and analyze studies corresponding to these research questions. An additional goal is to acquire the ability to present the results in writing corresponding to the standards of neuroscientific journals. The course will be held in English.

Laboratory Course: “Angewandte neuropsychologische Methoden EEG” (118 157) Prof.Axmacher/Hucke/Barth

The laboratory course stands in direct relation to the seminar course with the same name (also 2 SWS). Participation in both modules is mandatory.

The goal is to relay the ability to develop further research questions in cognitive neuroscience based on published neuropsychological literature, and to develop, independently conduct, and analyze studies corresponding to these research questions. An additional goal is to acquire the ability to present the results in writing corresponding to the standards of neuroscientific journals. The course will be held in English.

Seminar 2: „Ereigniskorrelierte Potentiale in der Neuropsychologie“ (118 151) <IN GERMAN> Prof. Dr. Boris Suchan, Monday, 10:00 – 12:00, First Meeting :09.04.18, Room GAFO 05/609

Das Seminar beschäftigt sich mit der Technik des Elektroenzephalogramms und den ereigniskorrelierten Potentialen. Diese Methode ist in der Neuropsychologie sowohl in Forschung als auch in der klinischen Anwendung sehr wichtig. Im Seminar werden alle wichtigen Paradigmen vorgestellt und diskutiert. Ebenfalls werden praktische Übungen im Labor durchgeführt. Eine Literaturliste wird zu Beginn des Seminars verteilt.

I. Free Selection

Please notice that under the category "free selection" we only describe courses which are in German as additional offers. For the German speakers please notice that you are only allowed to have maximally three courses in German in the whole program. For all students including the English speaking students the following rule holds: All courses of the whole program can also be accepted in the module free selection, i.e. if you have completed (or you have a clear plan how to complete) the obligatory modules, you can choose whatever course supports you best to realize the optimal master thesis. Furthermore, we can in principle accept also internships up to 10 credit points in the category of free selection. The internship must of course be equivalent to the number of credit points and it must be an internship that is proven to qualify for the program "Cognitive Science" and ideally supports the master thesis. If you aim to use an internship as a way to complete a part of this module then please contact Dr. Brössel or Prof. Newen in advance.

D1.

Free Selection

ENGLISH)

BLOCKSEMINAR
CULTURE, CONTEXT, AND DEVELOPMENT (112 347) (IN

PROF. NATASHA CABRERA

TERM:	Summer 2018
MEETING TIME:	01.06.: 10 – 14; 02.06.: 09 – 17; 08.06.: 10 – 14; 09.06.: 9 – 17
ROOM:	GAFO 04/271
CP:	t.b.a.

What is culture? How does culture play a role in the development of children and adolescents? These questions are at the core of this course, which examines socio-cultural and cross-cultural perspectives in understanding human development. We will compare various theoretical approaches and methodologies used to explore the meaning of context and culture in human development. The contexts to be considered include the family, peer group, school, neighborhood, work place, societal or political structures, and the broader culture.

The language of the seminar is English.

D1.

Free Selection

VORLESUNG
KOGNITION UND GEHIRN (112 611)
PROF. OLIVER WOLF

TERM: Summer 2018
MEETING TIME: Monday, 14.00 – 16.00, First Meeting: 09.04.2018
ROOM: HGA 30
CP: t.b.a.

Die Vorlesung bietet einen Überblick über Befunde und Theorien zu aktuellen Themen der kognitiven Neurowissenschaft. Die Vorlesung setzt Grundkenntnisse der Kognitionspsychologie und der Biopsychologie voraus. Kenntnisse aus dieser Vorlesung werden im Master Studiengang Psychologie und Kognitive Neurowissenschaft vorausgesetzt.

D1.

Free Selection

SEMINAR
JOURNAL CLUB (118 915)
PROF. NIKOLAI AXMACHER

TERM: Summer 2018
MEETING TIME: Thursday, 16:00 – 18:00, First Meeting: 12.04.2018
GAFO 05/609
t.b.a.

ROOM:
CP:

In Analogie zu den Kognitiven Neurowissenschaften - der Untersuchung der neuronalen Korrelate kognitiver Prozesse - wurden in den letzten Jahren auch Konzepte der Psychoanalyse mit bildgebenden Methoden untersucht. Dieses Seminar vermittelt einen Überblick über diese Studien. Dabei werden aktuelle Untersuchungen zu zentralen psychoanalytischen Konzepten (Verdrängung, Konversion, Träume, Traumatisierung...), aber auch Studien zu den Mechanismen der psychodynamischen Psychotherapie sowie psychodynamische Konzeptualisierungen neuropsychologischer Symptome vorgestellt und diskutiert.

D1.

Free Selection

LECTURE
EVOLUTION UND EMOTION (112 251)
PROF. ONUR GÜNTÜRKÜN

TERM: Summer 2018
MEETING TIME: Thursday, 16.00 – 18.00, First Meeting: 12.04.2018
ROOM: HGA 10
CP: 3

Wie verlief bisher die Geschichte des Lebens? Innerhalb welchen Gesamtszenarios bettet sich die Entstehung des Menschen ein und welche Anteile unseres heutigen Denkens, Handelns und Fühlens reflektieren die Gesetzmäßigkeiten, die bei der Phylogenese unseres Gehirns wirksam waren? Wie determiniert die Interaktion von Umweltfaktoren und genetischer Anlage unsere Entwicklung? Um solche Fragen beantworten zu können, müssen wir die Evolutionstheorie mit allen ihren Implikationen kennenlernen. In der Vorlesung sollen folgende Themen behandelt werden: 1) Mechanismen der Genetik und Epigenetik 2) Verhaltensgenetik. 3) Entwicklung des Lebens und des Menschen. 4) Emotionsmechanismen. 5) Soziobiologie.

D1.

Free Selection

LECTURE
BIOPSYCHOLOGIE (112 631)
 PROF. ONUR GÜNTÜRKÜN

TERM:	Summer 2018
MEETING TIME:	Thursday, 12.00 – 14.00, First Meeting: 12.04.2018
ROOM:	GAFO 03/252
CP:	3

Das Wissen um Hirnaufbau und Hirnfunktion ist die Grundlage für das Verstehen sämtlicher bio- und neuropsychologischer Fragestellungen. In dieser Vorlesung wollen wir uns exemplarisch das Sehsystem des Menschen vornehmen. Wir wollen seine Funktionen verstehen, indem wir die Anatomie und Physiologie des Sehsystems kennenlernen und neuropsychologische Ausfälle anschauen. Danach wollen wir kennenlernen, wie die visuelle Information in die Prozesse des präfrontalen Cortex integriert wird, so dass die Fähigkeit zum Behalten, Planen und Handeln entsteht. Kurz gesagt, wollen wir die neuronalen Grundlagen des Wahrnehmens und Erkennens kennenlernen.

Literatur:

Onur Güntürkün, Biopsychologie, Hogrefe Verlag 2012, Kapitel 5 - 12

Bekanntgabe weiterer aktueller Literatur während der Veranstaltung und über Blackboard.

D1.

Free Selection

SEMINAR
PSYCHIATRISCHE GENETIK UND EPIGENETIK (118 162)
PROF. ROBERT KUMSTA

TERM: Summer 2018
MEETING TIME: Wednesday, 14.00 – 16.00, First Meeting: 11.04.2018
ROOM: GAFO 04/271
CP: 3

Only 2 people may join. If you are interested, please send an application directly to Robert Kumsta:
Robert.Kumsta@rub.de.

In diesem Seminar wird über aktuelle Forschungsergebnisse aus der molekularen Verhaltensgenetik diskutiert. Im Fokus stehen dabei Befunde der psychiatrischen Genetik, sowie Ergebnisse zu Gen-

Umwelt-Interaktionen, Genexpression und der Epigenetik. Beispielsweise wird die Frage nach den Mechanismen behandelt, wie sich frühe Umweltfaktoren „biologisch festschreiben“ (biological embedding of experience), und welche Rolle dabei epigenetische Prozesse spielen. Außerdem wird der Nutzen von Biomarkern besprochen. Die genaue Auswahl der Literatur findet in Absprache mit den

Teilnehmern statt. Aktuelle Publikationen werden besprochen und methodenkritisch analysiert.

D1.

Free Selection

BLOCKSEMINAR
NEUROEPIGENETICS (118 161) (IN ENGLISH)
DR. VANESSA LUX

TERM:	Summer 2018
MEETING TIME:	20. & 21.04.: 9 – 18, preliminary meeting: 09.04.: 14 – 15
ROOM:	GAFO 04/271
CP:	t.b.a.

Neuroepigenetics studies epigenetic modifications in neuronal cells. First evidence indicates that epigenetic mechanisms regulating neuronal cell expression contribute to cell differentiation, brain development, learning, and memory. Students will get familiar with the most studied epigenetic mechanisms (DNA methylation, histone modifications, and RNA interference) and underlying models of gene-environment interaction. We will look into hot topics in developmental neurobiology, memory research, learning, and stress research, and learn about first findings. Moreover, we will discuss possibilities and limits of neuroepigenetics and its methods (molecular analyses, animal models, peripheral biomarkers) for psychological research questions. As an add-on, participants will learn strategies how to read and evaluate research papers efficiently. The course is taught in English.

D1.

Free Selection

*COLLOQUIUM***RESEARCH COLLOQUIUM: GENETIC PSYCHOLOGY (118 911)**

DR. ROBERT KUMSTA

TERM:	Summer 2018
MEETING TIME:	Monday, 16.00 – 18.00, first Meeting: 09.04.2018
ROOM:	GAFO 04/425
CP:	3

Dieses Forum dient zur Vorstellung aktueller Forschungsprojekte und Qualifikationsarbeiten

(Bachelorarbeiten, Masterarbeiten, Promotionsprojekte) der Arbeitseinheit Genetic Psychology. Darüber hinaus werden eingeladene Wissenschaftler aktuelle Forschungsergebnisse vorstellen.

Für die Vergabe von Creditpoints muss eine eigenständige Leistung in Form eines Essays erbracht werden, dass thematisch einen der Forschungsschwerpunkte der AE Genetic Psychology aufgreift.

D1.

Free Selection

LECTURE
SOZIALE KOGNITION (030 004)
 PROF. TOBIAS SCHLICHT

TERM:	Summer 2018
MEETING TIME:	Wednesday, 10.00 – 12.00, first Meeting: 11.04.2018
ROOM:	HGA 30
CP:	t.b.a.

Menschen sind wesentlich soziale Wesen und das Verstehen anderer Menschen als fühlende, denkende und intentional handelnde Subjekte stellt damit eine zentrale Fähigkeit des Menschen dar.

Intersubjektivität erschöpft sich zudem nicht in der sprachlichen Kommunikation zweier Menschen, sondern bezeichnet auch wesentlich die vorsprachliche Interaktion, die mit Mimik, Gestik und Körperhaltung zum Ausdruck gebracht wird.

An diese Thematik knüpfen systematische Fragen an: Wie gelingt uns das Verstehen Anderer – auch „Gedankenlesen“ genannt? Gibt es dafür einen spezifischen Mechanismus im Gehirn? Verwenden wir eine Art wissenschaftlicher Theorie, fühlen wir uns in Andere ein, indem wir in ihre „mentalen Schuhe“ schlüpfen oder können wir die geistigen Zustände Anderer gar an ihren Verhaltensweisen wahrnehmen? Wenn manche Krankheiten wie Autismus als Störung der sozialen Kognition betrachtet werden können, was funktioniert bei diesen Patienten nicht?

In dieser Vorlesung sollen unterschiedliche systematische Antworten zu diesen Fragen vorgestellt und kritisch diskutiert werden. Auf relevante Studien aus Psychologie und Neurowissenschaft wird dabei notwendiger Weise Bezug genommen.

Voraussetzung für eine erfolgreiche Teilnahme ist das Bestehen einer Abschlussklausur am Semesterende.

D1.

Free Selection

SEMINAR
SOZIALE KOGNITION (030 046)
 PROF. TOBIAS SCHLICHT

TERM:	Summer 2018
MEETING TIME:	Tuesday, 10.00 – 12.00, first Meeting: 10.04.2018
ROOM:	GA 03/46
CP:	t.b.a.

Menschen sind wesentlich soziale Wesen und das Verstehen anderer Menschen als fühlende, denkende und intentional handelnde Subjekte stellt damit eine zentrale Fähigkeit des Menschen dar.

Intersubjektivität erschöpft sich zudem nicht in der sprachlichen Kommunikation zweier Menschen, sondern bezeichnet auch wesentlich die vorsprachliche Interaktion, die mit Mimik, Gestik und Körperhaltung zum Ausdruck gebracht wird.

An diese Thematik knüpfen systematische Fragen an: Wie gelingt uns das Verstehen Anderer – auch „Gedankenlesen“ genannt? Gibt es dafür einen spezifischen Mechanismus im Gehirn? Verwenden wir eine Art wissenschaftlicher Theorie, fühlen wir uns in Andere ein, indem wir in ihre „mentalen Schuhe“ schlüpfen oder können wir die geistigen Zustände Anderer gar an ihren Verhaltensweisen wahrnehmen? Wenn manche Krankheiten wie Autismus als Störung der sozialen Kognition betrachtet werden können, was funktioniert bei diesen Patienten nicht?

Im Seminar sollen parallel zur Vorlesung unterschiedliche systematische Antworten zu diesen Fragen diskutiert werden. Dazu werden ausgewählte klassische und zeitgenössische philosophische Texte diskutiert. Voraussetzung für eine erfolgreiche Teilnahme ist die Bereitschaft, auch englische Texte zu lesen und entweder eine Hausarbeit oder mündliche Prüfung für einen benoteten Schein, oder aber eine kleinere Studienleistung für einen unbenoteten Schein zu erbringen. Die Texte werden elektronisch bereitgestellt.

SECOND YEAR PROGRAM

Please notice that one and the same course can only be accepted as part of one Module. Double use of the same Module is prohibited.

I. Interdisciplinary Research Module

Usually the interdisciplinary research modules should be completed in the third semester (winter semester). To keep flexibility for the students we offer some courses for these modules in the summer semester as well. Please check individually with the lecturer whether the colloquium will be in English. If the announcement is in English it is in English. But even if the announcement is in German the course may be in English because the literature discussed is in English.

I1.

Focus Module Philosophy

COLLOQUIUM

RESEARCH COLLOQUIUM: PHILOSOPHY MEETS COGNITIVE SCIENCE (030 128)

PROF. MARKUS WERNING

TERM:	Summer 2018
MEETING TIME:	Tuesday, 16:00 – 18:00, First Meeting: 10.04.2018
ROOM:	GA 04/187
CP:	2-6

In the research colloquium current topics at the interface between Philosophy and Cognitive Science will be discussed. The colloquium hosts talks by visiting leading experts and local researchers as well as presentations by doctoral and master students. Students will be given the (assisted) opportunity to present their projects in English.

I1.

Focus Module Philosophy

*COLLOQUIUM***RESEARCH COLLOQUIUM: CONSCIOUSNESS AND COGNITION****(030 125)**

PROF. TOBIAS SCHLICHT

TERM:	Summer 2018
MEETING TIME:	Tuesday, 12:00 – 14:00, First Meeting: 10.04.2018
ROOM:	GABF 04/358
CP:	2-6

This colloquium provides students with the opportunity to present and discuss their projects on various levels, e.g. BA or MA thesis projects, PhD projects and talks or other work in progress. In addition, selected invited speakers will present their own work on topics related to consciousness and cognition. This colloquium is thus addressed at students at all levels (BA, MA, PhD, and Postdoc) who would like to develop ideas for their final theses or present and discuss ideas that have already been worked out. Presentations can be in English or German.

I2.

Focus Module Psychology

COLLOQUIUM
**SCIENTIFIC COLLOQUIUM: COGNITIVE PSYCHOLOGY AND
 PSYCHONEUROENDOCRINOLOGY (118 913)**
 PROF. OLIVER T. WOLF

TERM:	Summer 2018
MEETING TIME:	Tuesday, 16.00 – 18.00, First Meeting: 10.04.2018
ROOM:	GAFO 03/252
CP:	t.b.a.

In this forum, scientific projects (i.e. Master and PhD projects) of the Cognitive Psychology work group will be presented. The main focus is on experimental stress studies. Here we will try to answer the questions, “what makes us stressed” and “how does stress affects our cognitive skills”. In addition, invited guests from our faculty, from other faculties of the RUB and from other universities world wild will present their current research findings on topics that relate to cognitive psychology or psychoneuroendocrinology.

An overview of the schedule will be available on the AE homepage from the beginning of April.

The seminar will be held in the English language.

I2.

Focus Module Psychology

*SEMINAR***JOURNAL CLUB: STRESS AND LEARNING (118 917)**

PROF. OLIVER T. WOLF

TERM:	Summer 2018
MEETING TIME:	Wednesday, 12:00 – 14:00, First Meeting: 11.04.
ROOM:	GAFO 02/365
CP:	t.b.a.

In this journal club we will present and critically discuss current scientific papers on the topic of stress and cognitive processes.

The seminar will be held in the English language.

I2.

Focus Module Psychology

*SEMINAR***JOURNAL CLUB: LEARNING AND MEMORY (310 526)**

PROF. SEN CHENG

TERM:	Summer 2018
MEETING TIME:	Tuesday, 12:00 – 14:00, first meeting: 10.04.2018
ROOM:	GA 04/187
CP:	3

We will focus on the neural basis of learning and memory at the systems level. In each session, a journal article will be presented by one participant and discussed by all participants. The articles will focus on the functional role of the mammalian hippocampus in spatial navigation and episodic memory. They will cover a diverse set of approaches: electrophysiology, imaging, computational modeling, and robotics. Students will select the articles to be presented in class in consultation with the instructor.

Prerequisites: knowledge of learning and memory at bachelor level

Requirements: 66% attendance, presentation

Max. 15 students

I3.**Focus Module Computational Modeling***LECTURE & EXERCISE***COMPUTATIONAL NEUROSCIENCE: VISION AND MEMORY****(310 504 & 310 514)****PROF. LAURENZ WISKOTT**

TERM:	Summer 2018
LECTURE:	Tuesday, 12 – 14, First Meeting: 15.05.2018
Exercise:	Tuesday, 10:30 – 12:00, First Meeting: 29.05.2018
ROOM:	NB 3/57
CP:	6

This lecture presents models of selforganization in neural systems, in particular addressing vision (receptive fields, neural maps, invariances, attention) and associative memory (Hopfield network).

!!!Lecture and exercise take place also within the second and third week of the semester break (31.07. & 07.08.)!!!

If this seminar is used for Module C3, it cannot be used for I3.

I3.**Focus Module Computational Modeling***LECTURE & EXERCISE***AUTONOMOUS ROBOTICS: ACTION, PERCEPTION, AND COGNITION (310 501 & 310 511)***PROF. GREGOR SCHÖNER*

TERM:	Summer 2018
LECTURE:	Thursday, 14.15 – 16.00 (first meeting: 12.04.2018)
EXERCISE:	Thursday, 16.15 – 17.00 (first meeting: 19.04.2018)
ROOM:	NB 3/57
CP:	6

Neuroinformatics is concerned with the discovery of new solutions to technical problems of information processing. These solutions are sought based on analogies with nervous systems and the behaviour of organisms. This course focuses on three exemplary problems to illustrate this approach:

- (a) Artificial action (autonomous robotics);
- (b) Artificial perception (robot vision);
- (c) Artificial cognition (simplest cognitive capabilities of autonomous robots such as decision making, memory, behavioural organization).

The main methodological emphasis is on nonlinear dynamical systems' approaches and dynamic (neural) fields.

If this seminar is used for Module C2, it cannot be used for I3.

I4.**Focus Module Neuroscience***COLLOQUIUM***RESEARCH COLLOQUIUM NEUROPSYCHOLOGY (118 912)**

PROF. NIKOLAI AXMACHER

TERM:	Summer 2018
MEETING TIME:	Thursday, 14:00 – 16:00, First Meeting: 12.04.2018
ROOM:	GAFO 05/609
CP:	t.b.a.

Vorstellung laufender Forschungsarbeiten, sowie Vorträge von Gastdozenten zu klinisch-neuropsychologischen Themen. Ein Zeitplan mit Informationen über Themen und Referenten wird zu Beginn des Semesters per Aushang und auf der Homepage bekannt gegeben. Die kritische Auseinandersetzung mit den Lerninhalten in Form von Diskussionen ist ein zentrales Lernziel und geht in die Bewertung mit ein.

I4.

Focus Module Neuroscience

*COLLOQUIUM***RESEARCH COLLOQUIUM BIOPSYCHOLOGY (118 914)**

PROF. ONUR GÜNTÜRKÜN

TERM:	Summer 2018
MEETING TIME:	Monday, 13.00 – 15.00, First Meeting: 09.04.2017
ROOM:	GAFO 05/425
CP:	t.b.a.

The research colloquium is open to all employees and graduate students of the Biopsychology department. The Aim is to present and discuss their research. In addition external guests are invited to give talks on different aspects of biopsychology. You can have a look at the schedule at the department's information board and our homepage: <http://www.bio.psy.ruhr-unibochum.de/>