



Master program “Mind and Brain”

Berlin School of Mind and Brain

Humboldt-Universität zu Berlin

Winter semester 2017/2018

ALL TIMES ARE MEANT S.T. (SHARP)!

Monday	Tuesday	Wednesday	Thursday	Friday
10:00 – 11:30 F. BERPPOHL / F. BRANDT Lecture: Clinical Neuroscience	10:00 – 11:30 I. DZIUBEK 20 years of research on interacting minds (B)	10:00 – 11:30 C. FINKE Tutorium Clinical Neuroscience	10:00 – 11:30 V. LUDWIG/N. ENDRES Applying the scientific method directly to the mind (M/B)	10:00 – 11:30 D. OTT/S. OVADIA CARO Tutorial: Neuroanatomy and Neurophysiology
12:15 – 13:45 J.-D. HAYNES Lecture: Cognitive Neuroscience	12:15 – 13:45 I. DZIUBEK Social interaction disorders (M/B)	12:15 – 13:45 J. LOAIZA Tutorium: Philosophy of Mind	12:15 – 13:45 I. DZIUBEK Research Colloquium (B)	12:30 – 14:00 F. IRMEN Tutorial: Cognitive Neuroscience
14:15 – 15:45 I. DZIUBEK Lecture: Basic Research Methods	14:15 – 15:45 R. MOORE Writing and Argumentation (M)	14:15 – 15:45 D. COELHO Mollo Philosophy of Biology (M)	14:15 – 15:45 A. TRAMACERE Mirror neurons and the evolution of the social brain (B)	14:30 – 16:00 GARRET O’CONNELL Tutorial: Basic Research Methods
16:15 – 17:45 L. TUDGE A practical Introduction to Matlab (B)	16:15 – 17:45 D. COELHO Mollo Advanced Philosophy of Mind (M)	16:15 – 17:45 J. FINGERHUT Picture Perception (M)	16:15 – 17:45 L. TUDGE Advanced Statistics (B)	
	18:15 – 19:45 M. PAUEN Philosophical Colloquium (M)			

Comprehensive Course Calendar

Block courses:

Block courses BEFORE THE START of the semester:

Please find detailed course descriptions on the specified pages.

<i>M. Larkum/D. Ott</i>	<i>Neuroanatomy and Neurophysiology</i>	<i>2, 4–6 Oct 2017 (p. 3)</i>
<i>M. Pauen</i>	<i>Basic Phil. Concepts and Philosophy of Mind</i>	<i>9–13 Oct 2017 (p. 3)</i>
<i>R. Moore</i>	<i>Teaching and Human Development (M)</i>	<i>4–7 Oct 2017 (p. 7)</i>
<i>J. Fingerhut</i>	<i>Culture, Embodiment, Cognition (M)</i>	<i>9–12 Oct 2017 (p.8)</i>

Block course DURING the semester

<i>B. Gawronski</i>	<i>Attitudes and the Explicit-Implicit Dualism</i>	<i>15 Dec 2017 (one day)(p.8)</i>
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Block courses AFTER THE END of the semester:

<i>J.-D. Haynes/M. Pauen</i>	<i>Ethics and Neuroscience</i>	<i>19–24 Feb 2018 (p. 5),</i>
<i>M. Pauen/F. Pulvermüller/M. Fischer</i>	<i>Embodied Cognition (M/B)</i>	<i>26 Feb–2 March 2018 (p.10)</i>
<i>R. Moore</i>	<i>Reasoning and Persuasion (M)</i>	<i>26–28 Feb 2018 (p.9)</i>
<i>C. Finke,</i>	<i>Forgetting and amnesic syndroms (B)</i>	<i>6 – 8 March 2018 (p.10)</i>
<i>M. Paul</i>	<i>A Hands-On Introduction to Event-Related Potentials</i>	<i>9-13 April 2018 (p. 11)</i>

Mandatory Lectures:

2, 4 – 6 October 2017, 9:00 – 17:00

Neurophysiology and Neuroanatomy

Prof. Dr. Mathew Larkum (Charité Universitätsmedizin Berlin) / Dr. Derek Ott (Unfallkrankenhaus Berlin)

venue: Bernstein Center for Computational Neuroscience, Philippstraße 12, Haus 6, 10115 Berlin, Lecture Hall

Mind and Brain, Bernstein Center, and Einstein Center of Neuroscience students **only!**

The course provides a basic understanding of where (anatomy) in the brain what (physiology) happens. It is of particular value for those students whose background is mainly in a “mind” science such as linguistics or philosophy. Participating students will learn about the fundamental units of brain anatomy, such as lobes, areas, columns, etc. A special emphasis will be put on structure function relationship, i.e., which brain area is responsible for which aspect of brain function. It will be explained how brain areas interact, and what theories exist about bringing together aspects of information from different brain areas into one percept or thought (binding). The physiology part of the course will address fundamentals of neuronal functioning, interaction of neurons, neurotransmission, and will provide an understanding of neurovascular coupling, a basis of the most important functional neuroimaging method, fMRI.

9 - 13 October 2017, 9:00 – 17:00

Basic Philosophical Concepts and Philosophy of Mind

Prof. Dr. Michael Pauen (Department of Philosophy, HU Berlin)

venue: Ostertaghaus (House 4), Campus Nord, Philippstraße 12, 10115 Berlin, Hörsaal 4

Mind and Brain, Bernstein Center, and Einstein Center of Neuroscience students **only!**

The course provides a systematic overview over the most central issues in the philosophy of mind. Participating students will learn to apply relevant philosophical concepts, they will be taught to construct a valid argument; they will learn how to distinguish between the most important options in the mind–body debate and how to assess the consequences of neuroscientific research.

Monday 10:00 – 11:30

start: 23.10.2017

Clinical Neuroscience

Prof. Dr. Felix Bormpohl (Klinik für Psychiatrie und Psychotherapie, Charité) / Prof. Dr. Stephan Brandt (Klinik für Neurologie, Charité) / Prof. Dr. Malek Bajbouj (Klinik für Psychiatrie und Psychotherapie, Charité)

venue: Ostertaghaus (House 4), Campus Nord, Philippstraße 12, 10115 Berlin, Hörsaal 4

Mind and Brain and Einstein Center of Neuroscience students **only!**

The course provides basic knowledge about the neuroscience of clinical psychiatry and neurology. Students will learn the basic pathophysiology of important disorders of the brain and how the brain reacts to these challenges. Participating students will learn (a) how alterations of different cognitive systems (e.g., emotion regulation, language, reward) result in mental disorders, (b) how these alterations can be studied using neuroscience methods, (c) how this knowledge may translate into therapeutic applications. Particular emphasis will be placed on practical aspects of clinical neuroscience, e.g. by demonstrating the examination of a patient.

Ch. Zorumski/E. Rubin, *Psychiatry and Clinical Neuroscience*, Oxford 2011

Monday 12:15 -13:45

start: 23.10.2017

Cognitive Neuroscience

Prof. Dr. John-Dylan Haynes (Bernstein Center for Computational Neuroscience Berlin)

venue: Bernstein Center for Computational Neuroscience, Philippstraße 12 (House 6), 10115 Berlin, Lecture Hall

*Mind and Brain and Bernstein-Center students **only!***

The course provides an introduction to the field of Cognitive Neuroscience which is the study of the neural basis of perception, cognition, and behavior in the intact human brain. The course will cover core topics in Cognitive Neuroscience, including typical experimental paradigms and research methods.

A light introduction to Cognitive Neuroscience for beginners:

Ward. *The student's guide to cognitive neuroscience*. Psychology Press, 3rd edition, 2015.

Monday 14:15 – 15:45

start: 23.10.2017

Basic Research Methods

Prof. Dr. Isabel Dziobek (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

Mind and Brain students **only!**

This course intends to provide knowledge on the theoretical principles and practical applications of psychological research methods in general and neurocognitive methods in particular. It will cover predominantly important steps of conducting quantitative research such as hypothesis testing, formulating experimental conditions, and statistical designs. Various technologies for measuring brain structure and function and the limitations of these techniques will also be covered, including functional magnetic resonance imaging (fMRI), event-related potentials (ERPs), transcranial magnetic stimulation (TMS). In addition, eyetracking measures and psychophysiological measures such as skin conductance response will be covered. The application of those methods will be illustrated with examples from various cognitive abilities (e.g., emotion understanding, memory). Wherever possible, the course will allow for hands-on experience with the methods (cf. tutorial). The goal for students is to be able to understand the methods covered and critically evaluate research that uses them.

Block course: 19 – 23 Feb 2018, 9:00 – 17:00

Winter School on Ethics and Neuroscience

Prof. Dr. John-Dylan Haynes (Bernstein Center for Computational Neuroscience Berlin)

Prof. Dr. Michael Pauen (Institut für Philosophie, HU Berlin / Berlin School of Mind and Brain)

Prof. Dr. Thomas Schmidt (Institut für Philosophie, HU Berlin)

Prof. Dr. Jesse Prinz (Einstein Visiting Fellow, Berlin School of Mind and Brain)

venue: Ostertaghaus (House 4), Campus Nord, Philippstraße 12, 10115 Berlin, Hörsaal 4 (Room 111) /

Bernstein Center for Computational Neuroscience, Philippstraße 12 (House 6), 10115 Berlin, Lecture Hall

Participants will be familiarized with basic ethical concepts and theories and will gain an overview of ethically relevant aspects of neuroscience. Thereby, participants will learn to know how ethical issues are tackled in philosophical ethics, and they will get an overall view of the theoretical interfaces between ethics and neuroscience.

Mandatory Tutorials:

Wednesday 10:00 – 11:30

start: 25.10.2017

Tutorial: Clinical Neuroscience

Prof. Dr. Carsten Finke (Charité - Universitätsmedizin Berlin / Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

Wednesday 12:15 – 13:45

start: 25.10.2017

Tutorial: Philosophy of Mind

Juan Loaiza Arias (Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

Friday 10:00 – 11:30

start: 27.10.2017

Tutorial: Neuroanatomy and Neurophysiology

Dr. Derek Ott (Unfallkrankenhaus Berlin) /Dr. Smadar Ovadia Caro (Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

Friday 12:30 – 14:00

start: 27.10.2017

Tutorial: Cognitive Neuroscience

Friederike Irmen (Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

Friday 14:30 – 16:00

start: 27.10.2017

Tutorial: Basic Research Methods

Dr. Garret O'Connell (Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

Block Courses:

4 – 6 Oct 2017, 9:15 – 17:45

Teaching and Human Development

Dr. Richard Moore (Institut für Philosophie, HU Berlin / Berlin School of Mind and Brain) / Dr. Joseph Bjelde (Institut für Philosophie, HU Berlin)

venue: Hannoversche Str. 6, room 3.03

MIND

What is teaching, and how is it significant for human life? This blockseminar will explore those questions, drawing on recent work as well as ancient Greek texts, which proceed from very different starting points to very different answers. For instance, recent work in cognitive science argues that an ability to pass on complicated skills and information to others has been fundamental to the survival and development of the human race, because it enables both rapid adaptation to a changing environment, and the development of uniquely human social institutions. Plato, on the other hand, thinks of teaching as an (almost?) impossible ideal, reaching far beyond the mere imparting of skills and information with survival value, and finds its importance in the way it would help navigate social institutions as they now are. By setting these two strands of thought next to each other in this seminar, we hope to get clearer not just on the answers to the questions above, but also on what's at stake in answering them.

Background reading for the interested:

Plato. The Meno.

Moore, R. (2016). Pedagogy and social learning in human development. In J. Kiverstein (ed.) Routledge Handbook of Philosophy of the Social Mind. London: Routledge, pp.35-52.

Please note that this seminar is intended to complement our blockseminar "Reasoning and Persuasion", which will be taught in February; if the course is oversubscribed, preference will be given to participants registering for both seminars. Participants will be expected to have prepared for the blockseminar in advance of its start, and students should register on the course Moodle as soon as possible.

Moodle password: teaching2017

9 – 12 October 2017, 10:00 – 18:00

Culture, Embodiment, Cognition

Dr. Joerg Fingerhut (Einstein Group Jesse Prinz / Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

MIND

In this course we will discuss in what way mental states are influenced by the tools and cultural artifacts we engage with. We will embed this question within the framework of the 4EA Mind. This is a framework that sees the mind as embodied, embedded, enactive, extended, and affective. When it comes to enculturation, most debates regarding the impact of culture on cognition focus on technological, linguistic, and social influences. We will touch upon these as well, but the focus of this course will mostly be on other realms of culture. A specific focus will be on the way material cultural artifacts (architecture, pictures, film) influence the mind – a concept that has been discussed under the notion of the “artefactual mind.” In what ways have cultural artifacts altered our habits of perceiving? What skills have evolved in our interaction with such artifacts? Are there culturally different ways of experiencing the world? We will discuss texts from philosophy, psychology and cognitive neuroscience in order to assess in what ways our perception and experience are penetrated by the objects and cultural contexts we are exposed to.

15 December 2017, 10:00 – 17:30

Attitudes and the Explicit-Implicit Dualism

Prof. Dr. Bertram Gawronski (University of Texas at Austin)

venue: Luisenstraße 56, 10117 Berlin, room 123

Preparatory meeting: 10 Nov 2017, 16:15, venue: Invalidenstraße 110, 10115 Berlin, room 449

Organiser & Contact: Richard Wundrack (wundracr@hu-berlin.de)

MIND / BRAIN

Credit Points: 1

The construct of attitude is defined as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor". The implicit association test (IAT), infamous for many studies on implicit racial bias, and other implicit and explicit measures provide conflicting evidence for how attitudes form and change. Different dual-system and dual-process theories have been proposed to explain the mixed evidence. The one-day-workshop provides a critical overview of the theories and measurement techniques of implicit and explicit evaluation and an introduction into B. Gawronski's own context-sensitive dual-process theory.

Course Requirements: Depending on the number of participants, participants are required to give a 10 to 15 min long presentation (alone or in pairs) on one of the 4 topics. Presentations will be assigned during the 1h preparatory meeting. A pdf-reader will be distributed to registered participants via moodle. The reader will contain mandatory and supplemental readings. All participants are expected to be acquainted with the readings accordingly.

After the workshop participants are invited to take part in Bertram Gawronski's public lecture on "What Do Implicit Measures Tell Us? Evidence, Myths, and the Media" which is followed by a social event for the workshop participants.

26 – 28 Feb 2018, 9:15 – 17:45

Reasoning and Persuasion

Dr. Richard Moore (Institut für Philosophie, HU Berlin / Berlin School of Mind and Brain) / Dr. Joseph Bjelde (Institut für Philosophie, HU Berlin)

venue: Hannoversche Str. 6, room 3.03

MIND

What role does persuasion play in understanding how we do or should think? Is persuasiveness something we have evolved to strive for, at the expense of good reasoning, as some recent work in cognitive science suggests? Or is persuasiveness in fact very closely tied to rationality, as some ancient Greek thinkers thought? This blockseminar will be devoted to discussing these questions (inter alia) about the relationship between reasoning and persuasion, with readings drawn both from contemporary cognitive science, as well as ancient Greek rhetoric and philosophy.

Key text:

Mercier, H & Sperber, D. (2017) *The Enigma of Reason*. Harvard UP.

All students should get their own copy of this.

Please note that this seminar is intended to complement our blockseminar "Teaching" which will be taught in October; if the course is oversubscribed, preference will be given to participants registering for both seminars. Participants will be expected to have prepared for the blockseminar in advance of its start, and students should register on the course Moodle as soon as possible.

Moodle password: reasoning2017

26 Feb – 2 March 2018, 10:00 – 18:00

Embodied Cognition

Prof. Dr. M. Fischer (Universität Potsdam), Prof. Dr. M. Pauen (Berlin School of Mind and Brain) / Prof. Dr. Dr. F. Pulvermüller (FU Berlin)

venue: Will be announced at the preparatory meeting.

Preparatory meeting: 16 November 2017, 18:00

venue: Humboldt-Universität zu Berlin (main building), Unter den Linden 6, 10099 Berlin, room 3059

MIND / BRAIN

Traditionally, philosophy, psychology, and linguistics used to focus on abstract descriptions when it comes to explain and understand cognition. In particular, the conceptual or semantic system has been framed in terms of a symbolic system in which meaning is defined in terms of abstract features or relationships between symbols. This view has been challenged in recent years both by philosophical arguments and empirical evidence showing that cognitive processes can only be understood if bodily processes are taken into account, that is, if meaning and concepts are 'grounded' in the world and in human actions and emotions. In addition, results from brain research have been interpreted to provide strong evidence that concepts are grounded and 'embodied'. The current 'embodiment debate' aims at an integrative account that tackles relevant philosophical issues and explains a broad range of psychological and neuroscience data.

The seminar will start with a discussion of the main philosophical issues. Afterwards, empirical papers from psychology, linguistics and neuroscience which fueled the debate about embodied cognition will be read.

5 – 8 March 2018, 10:00 – 16:00

Forgetting and amnesic syndroms

Prof. Dr. Carsten Finke (Charité - Universitätsmedizin Berlin / Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

Preparatory meeting: 19 January 2018, 16:15

venue: Invalidenstraße 110, 10115 Berlin, room 449

BRAIN

Forgetting is not just the opposite of remembering, but "may be defined as the inability to access information that was successfully encoded and could previously be retrieved by the same retrieval cue that now leads to retrieval failure" (John Wixted). This seminar will give an introduction about physiological and pathological mechanisms of forgetting. The first part will focus on physiological forgetting, e.g. Ebbinghaus' forgetting curve, but also new evidence about the role of hippocampal

neurogenesis in forgetting, how sleep enhances forgetting, mechanisms of motivated forgetting and why we forget our earliest memories (childhood amnesia). The second part will cover clinical presentations and mechanisms of pathological forgetting in amnesic syndromes such as transient global amnesia, alcohol- and drug-induced amnesia, Alzheimer's disease and psychogenic amnesia.

9 – 13 April 2018, 10:00 – 16:00

A Hands-On Introduction to Event-Related Potentials

Mariella Paul (Berlin School of Mind and Brain, MPI for Human Cognitive and Brain Sciences)

venue: Invalidenstraße 110, 10115 Berlin, room 449

Preparatory meeting: 2 February 2018, 16:15, venue: same as course (Invalidenstraße, 449)

BRAIN

Event-related potentials (ERPs) are a commonly used method in psychology, cognitive neuroscience, and related fields. With their high temporal resolution on the order of milliseconds, ERPs allow insight into brain mechanisms involved in learning, language processing, social cognition, and many others. The aim of this course is to learn how to use ERPs to study the mind and the brain, to get hands-on experience with the analysis of ERPs, and to get intuitions about the underlying principles of analysis steps.

We will start with a brief introduction of EEG data in general and specifically ERPs. We will learn which kind of research questions can be answered using ERPs and how to design an ERP experiment. We will also look at a number of ERP components commonly found in neuropsychological experiments and learn how to interpret them. Then, we will turn to the hands-on sessions, in which we will analyze EEG data using Fieldtrip, an open-source, Matlab-based toolbox. We will learn how to get from raw EEG data experiments to ERPs. Using Fieldtrip, we will perform commonly used steps of EEG analysis, including altering, segmenting, rereferencing, cleaning, averaging, and plotting. As a final step, we will learn how to use statistical analysis on ERPs. For each of these steps, we will first look at the underlying principles and then conduct this analysis step ourselves.

There are no specific prerequisites needed for this course, although basic programming skills in Matlab will be advantageous. Students will need to bring their own laptops.

Elective Courses:

Focus MIND

Tuesday 12:15 – 13:45

start: 24.10.2017

Social interaction disorders: towards a transdiagnostic classification of mental disorders with involvement of socio-emotional dysfunction

Prof. Dr. Isabel Dziobek (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

MIND / BRAIN

Despite decades of research, biomarker identification for psychiatric disorders has been lacking and the development of effective interventions has been limited. High rates of comorbidity and shared pathophysiologic mechanisms across disorders has redirected efforts towards the identification of core psychological processes that lead to psychopathology and to the development of interventions that can be applied transdiagnostically. This seminar will focus on this new conceptualization by focusing on systems for social processes such as perception and interpretation of mental states and attachment. Information will be conveyed on biopsychological underpinnings of psychiatric disorders involving defining social interaction problems such as autism spectrum disorders, borderline personality disorders, and social anxiety disorder. A special focus will be on advantages of a transdiagnostic approach for diagnosis and treatment of social interaction disorders.

Tuesday 14:15 – 15:45

start: 17.10.2017

Writing and Argumentation

Dr. Richard Moore (Institut für Philosophie, HU Berlin / Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

MIND

The goal of this series of seminars will be to train students in the language and argumentation skills required for reading and writing philosophy. It is aimed at both philosophy students and, perhaps especially, graduate students from the non-philosophy cognitive sciences. Students will be trained not just in how to read and understand philosophical arguments, but to evaluate critically them, too. The goal will be to enable students to argue with philosophers on their own terms – capable not just of appropriating philosophers' ideas for their own work, but to be able and confident to critically accept or reject and develop these ideas too.

In the earlier parts of the course, we'll look at the nature of philosophical argument and key aspects of philosophical reasoning. Later we'll look at particular examples of philosophical argument in more detail, through close readings of a series of classic papers in the Philosophy of Mind by a range of authors including Fiona Cowie, Elizabeth Lloyd, Noam Chomsky, Paul Churchland, and Frank Jackson.

Indicative course texts:

Van Gelder, T. (1998). The roles of philosophy in cognitive science. *Philosophical Psychology*.

Sinnott-Armstrong, W. & Fogelin, R. (2014). *Understanding Arguments* (9th edition, concise). Stamford, CT: Cengage.

Tuesday 16:15 – 17:45

start: 17.10.2017

Advanced philosophy of mind

Dimitri Coelho Mollo (Institut für Philosophie, HU Berlin / Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

MIND

The aim of the seminar is to delve deeper into issues at the centre of research in philosophy of mind, with especial focus on the metaphysics of mind, the nature of consciousness, and mental causation. In order to allow a detailed exploration of these topics, the course will be discussion-based, involving careful reading of papers on each subject matter. The seminar is particularly suited to students that have some background in philosophy of mind, and/or that have attended introductory courses on the topic.

Tuesday 18:15 – 19:45

start: 25.10 2017

Prof. Dr. M. Pauen (Institut für Philosophie, HU Berlin / Berlin School of Mind and Brain)

Philosophical Research-Colloquium

venue: Berlin School of Mind and Brain, Luisenstraße 56, 10117 Berlin, room 220

MIND

The weekly colloquium is open for advanced students and doctoral students who are interested in current debates in the philosophy of mind. We will discuss recent research papers as well as papers by the participants.

Participation by appointment only. Please contact my secretary Ms. Anja Mayer if you want to sign up for the colloquium: anja.mayer@hu-berlin.de.

Wednesday 14:15 – 15:45

start: 18.10.2017

Philosophy of biology

Dimitri Coelho Mollo (Institut für Philosophie, HU Berlin / Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

MIND

This seminar aims at providing an introduction to the philosophy of biology. We will focus on issues related to some fundamental notions in biology, how to understand them, and the role they play in the science. We will tackle questions such as: what is life? What is a species? How to understand the notions of adaptation and fitness in evolutionary theory? What are the units of selection? What is a biological function? We will also be concerned with the nature of biological explanation, whether evolutionary considerations can help shed light on psychology, and the importance of cultural evolution.

Wednesday 16:15 – 17:45

start: 18.10.2017

Picture perception

Dr. Joerg Fingerhut (Einstein Group Jesse Prinz, Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

MIND

In this course we will discuss philosophical texts regarding picture perception. The focus will be on the concept of „seeing-in“, i.e. how in picture perception we interact at the same time with the picture surface and objects that are depicted „in“ the picture. The aim of this course is to understand what particular kind of objects pictures are, how we perceive and evaluate them (e.g. in the case of art), but also what they can tell us about our cognitive system.

Preliminary reading: Wollheim, R. (2003). In defense of seeing-in. In H. Hecht, R. Schwartz, & M. Atherton (Eds.), *Looking into pictures: An interdisciplinary approach to pictorial space* (pp. 3-15). Cambridge, Mass.: MIT Press.

Focus BRAIN

Monday 16:15 – 17:45

start: 23.10.2017

A practical Introduction to Matlab for Brain Sciences

Luke Tudge (Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

BRAIN

Mind and Brain students **only!**

MATLAB is by far the most widely used programming tool in cognitive neuroscience. A number of popular tools for performing brain imaging are programmed in Matlab, and a decent mastery of this language is a real plus for all experimental cognitive neuroscientists. In this course, we will learn how to turn ideas into experiments and data using this programming language. We will take a practical approach and "program our way" through all the steps leading from planning an experiment, to presenting and running it, gathering, analyzing and simulating data.

In general, this course is for *Mind and Brain students only* but if not all places are taken by our students we are happy to offer those places to interested students of other programs. When you would like to take the course, please send an email to the program coordinator who will put you on a waiting list: mb-education@hu-berlin.de (Dirk Mende).

Tuesday 10:00 – 11:30

start: 24.10.2017

Social neuroscience anniversary seminar: 20 years of research on interacting minds

Prof. Dr. Isabel Dziobek (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

BRAIN

Human beings are social animals. We evolved in social groups, and therefore, our brains are wired to interact with others and behave in social situations. By using brain imaging methods over the last 20 years, neuroscientists have been asking questions about the brain and human social behaviors. The overarching goals of the field of Social Neuroscience are the understanding the neural bases of social behavior, affect, and social cognition and using that knowledge to inform psychological and philosophical theory. The primary aim of this seminar is to survey key research and methods in social neuroscience of the past two decades

Thursday 10:00 – 11:30

start: 19.10.2017

Applying the scientific method directly to the mind – An introduction to the theory and practice of first-person methods

Dr. Vera Ludwig (Berlin School of Mind and Brain) / Nicolas Endres (Berlin School of Mind and Brain)

venue: MPI Human Cognitive and Brain Sciences, Philippstraße 12, 10115 Berlin, House 5

Mind / BRAIN

*20 participants max. - Mind and Brain students **only!***

Can we do science within the confines of our own minds? Is it possible to make reliable observations within subjectivity? Can we systematically reproduce mental states? And what are necessary prerequisites for doing subjective science? These and other questions build the foundation of this course. They will be explored in theory and, importantly, in practice. Each class consists of a lecture, an open discussion and the practice of first-person science.

In the theoretical part we will review the history and theory of first-person science from the perspective of Western psychology and phenomenology as well as from the viewpoint of Eastern philosophical traditions such as Buddhism. Important topics include the scientific method and ideals, introspection, meditation, attention, metacognition, mindfulness and the neuroscience of meditation.

In the practical part we will engage with our own subjective data directly. We will adopt the scientific stance towards our own experience, seeing our own mind as a kind of laboratory which continuously provides us with a stream of observable data (e.g., thoughts and emotions). By practising two secular meditation techniques, we aim to systematically refine our attention, interoception, mindfulness and meta-cognition, with the goal of making richer, more fine-grained and more objective observations of our mental content. To ensure swift progress, students are expected to practice these techniques outside class for 20 min, 5 times a week. During the course, we will continuously gather and evaluate data as well as collect our insights regarding the functioning of the mind.

In general, this course is for Mind and Brain students only but if not all places are taken by our students we are happy to offer those places to interested students of other programs. When you would like to take the course, please send an email to the lecturer who will put you on a waiting list: nicolasendres@posteo.de (Nicolas Endres).

Thursday 12:15 – 13:45

start: 26.10.2017

Research Colloquium

Prof. Dr. Isabel Dziobek (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Please contact Dr Juliane Domke for information where the course will take place!

Participation by appointment only. Please contact my lab manager Dr. Juliane Domke **by 20 October** if you want to sign up for the colloquium: mb-soccog@hu-berlin.de.

BRAIN

Thursday 14:15 – 15:45

start: 19.10.2017

Mirror neurons and the evolution of the social brain

Dr. Antonella Tramacere (Lichtenberg-Kolleg, Institute of Advanced Studies, Göttingen)

venue: Invalidenstraße 110, 10115 Berlin, room 449

BRAIN

Mirror neurons (MNs), neurons that activate during both execution of an action and perception of similar action performed by another - have been interpreted as the neural underpinning of specific social cognitive skills (i.e., understanding of other mental states and imitation), and their evolutionary origins have been discussed extensively. Interpretations vary from innatist (genetic account) to empiricist views (associative account), passing through hybrid accounts combining elements of the two views.

In this class, we will discuss these interpretations, and refer to evolutionary concepts (i.e., adaptation, canalization, exaptation, social learning) used to describe MNs evolution and adaptivity. We will further analyze variations of meanings of these concepts across the Modern and Extended Evolutionary Synthesis, and undertake detailed argumentations of the evolutionary implications associated with the different (genetic, associative and hybrid) accounts of MNs origin. We will further analyze this information in the light of the debate between domain-general versus domain-specific learning of mirroring mechanisms and show that assuming that brain areas with mirror properties evolved for social cognition, implies that MNs are a domain-specific learning trait of the social brain. In contrast, as a byproduct of sensorimotor control, MNs would be a domain-general learning property of the individual brain, and their functions in social cognition would be a-specific.

Preliminary reading: Ferrari, Pier Francesco, and Giacomo Rizzolatti. *New frontiers in mirror neurons research*. Oxford University Press, USA, 2015.

Cook, R., Bird, G., Catmur, C., Press, C., & Heyes, C. (2014). Mirror neurons: from origin to function. *Behavioral and Brain Sciences*, 37(02), 177-192.

Thursday 16:15 – 17:45

start: 19.10.2017

Advanced statistics

Luke Tudge (Berlin School of Mind and Brain)

venue: Invalidenstraße 110, 10115 Berlin, room 449

BRAIN

This course follows 'Applied Statistics'. Although 'Applied Statistics' is not a prerequisite, a basic acquaintance with the content of that course is assumed, or with the content of a typical undergraduate statistics course for psychologists. In 'Advanced Statistics' we will cover five main topics: 1) Limitations of hypothesis testing, and an overview of the alternatives. 2) Variants of simple linear regression, such as multiple regression, logistic regression, multivariate analysis of variance (MANOVA), and linear mixed effects models. 3) Methods of comparing the performance of models, such as measures of fit, information criteria, and cross-validation. 4) Resampling-based methods, such as bootstrapping and permutation tests. 5) An introduction to Bayesian methods using JASP. The class will be mostly oriented towards learning the theory behind each method, with occasional practical demonstrations using the statistics package R. Further practical experience will be gained through homework assignments using R. An introductory session prior to the start of the course will cover the basics of R for those not already familiar with it. After completing this course, students should have an understanding of a broad 'toolbox' of different statistical methods, be able to select methods appropriate to their research questions, and present and interpret the results.

If you have questions, please contact

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NB: The Mandatory Lectures and the Mandatory Tutorials are for Mind and Brain students only. The Elective Courses are open for students of other programs. If you are a student of Humboldt-Universität, please register for these courses in the *Überfachlicher Wahlpflichtbereich* section of AGNES. If you are a student of another university, you have to fill a registration as guest auditor or visiting student in the beginning of the course. Please find information here: <http://www.mind-and-brain.de/master/course-calendars/>