



Master program “Mind and Brain”

Berlin School of Mind and Brain

Humboldt-Universität zu Berlin

Winter semester 2021/2022

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

Monday	Tuesday	Wednesday	Thursday	Friday
10:00 – 11:30 Berpohl/Brandt/ Bajbouj Lecture: Clinical Neuroscience	10:15 – 11:45 Hipólito Topics in Cognitive Modelling (M)	9:00 – 10:30 Finke Tutorial: Clinical Neuroscience	9:00 – 10:30 Guendelman Lecture: Basic Research Methods	9:00 – 10:30 Ott Tutorial: Neuroanatomy and Neuro- physiology
10:00 – 11:30 Dziobek Colloquium (B)	11:00 – 12:30 Brass Research Colloquium (B)	12:15 – 13:45 Hipólito Philosophical Psychology (M)	11:00 – 12:30 Guendelman Tutorial: Basic Research Methods	11:00 – 12:30 Ganesh Tutorial: Cognitive Neuroscience
12:30 – 14:00 Haynes Lecture: Cognitive Neuroscience	13:30 – 15:00 Brass Research seminar: Intentional and cognitive control of behaviour (B)	14:15 – 15:45 Schwarz Tutorial: Philosophy of Mind		
14:30 – 16:00 Pauen / Haynes The Epistemology of Consciousness (M/B)	16:15 – 17:45 Coelho Mollo Representation and Computation in Cognitive Science (M)	17:00 – 18:30 Khalil / Galinovic Magnetic resonance imaging in neurology and neuroscience(B)	16:15 – 17:45 (at FU Berlin) Tomasello Language evolution, it’s use and social interaction (M/B)	
16:30 – 18:00 Plank Matlab (B)				
18:15 – 19:45 Pauen Philosophical Colloquium (M)				

Block courses: 4 – 8 Oct 2021, 9:00 – 15:30 : M. Pauen: Lecture: Philosophy of Mind

11-15 Oct 2021, 9:00 – 15:30 : D. Ott: Lecture: Neuroanatomy and Neurophysiology

28 Feb – 4 Mar 2022 – J.-D. Haynes/Th. Schmidt : Lecture Ethics and Neuroscience

Comprehensive Course Calendar

Block courses:

Before the start of the semester:

<i>M. Pauen</i>	<i>Basic Phil. Concepts and Philosophy of Mind</i>	<i>4 - 8 Oct 2021 (p. 3)</i>
<i>D. Ott</i>	<i>Neuroanatomy and Neurophysiology</i>	<i>11 – 15 Oct 2021 (p. 3)</i>

After the end of the semester:

<i>J.-D. Haynes / Th. Schmidt</i>	<i>Ethics and Neuroscience</i>	<i>28 Feb – 4 March 2022 (p. 5)</i>
-----------------------------------	--------------------------------	-------------------------------------

Mandatory Lectures:

Block course: 4 - 8 October 2021, 9:00 – 15:30

Basic Philosophical Concepts and Philosophy of Mind

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

venue: Zoom

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.

Block course: 11 – 15 Oct 2021, 9:00 – 15:30

Neurophysiology and Neuroanatomy

Dr. Derek Ott (Max Planck School of Cognition / Unfallkrankenhaus Berlin)

venue: Zoom

*Mind and Brain and Einstein Center for Neurosciences 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.

Monday 10:00 – 11:30

start: 25.10.2021

Clinical Neuroscience

Prof. Dr. Felix Bempohl (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: Zoom

*Mind and Brain and Einstein Center for Neurosciences 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.

Ch. Zorumski/E. Rubin, *Psychiatry and Clinical Neuroscience*, Oxford 2014

Monday 12:30 -14:00

start: 25.10.2021

Cognitive Neuroscience

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

venue: Zoom

*Mind and Brain, Bernstein-Center and Einstein Center for Neurosciences 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:

J. Ward. *The student's guide to cognitive neuroscience*. Psychology Press, 4th edition, 2019.

Thursday 9:00 – 10:30

start: 21.10.2021

Basic Research Methods

Dr. Simon Guendelman (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Zoom

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 research questions, the design of experiments, validity, types of data, and reporting results. 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: 28 Feb – 4 Mar 2022, 9:00 – 17:00

Winter School on Ethics and Neuroscience

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

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

venue: Zoom

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 9:00 – 10:30

start: 27.10.2021

Tutorial: Clinical Neuroscience

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

venue: Zoom

Wednesday 14:15 – 15:45

start: 20.10.2021

Tutorial: Philosophy of Mind

Sera Schwarz (Berlin School of Mind and Brain)

venue: Zoom

Thursday 11:00 – 12:30

start: 21.10.2021

Tutorial: Basic Research Methods

Dr. Mareike Bayer (Institut für Psychologie, HU Berlin / Berlin School of Mind and Brain)

venue: Zoom

Friday 9:00 – 10:30

start: 22.10.2021

Tutorial: Neurophysiology and Neuroanatomy

Dr. Derek Ott (Max Planck School of Cognition / Unfallkrankenhaus Berlin)

venue: Zoom

Friday 11:00 – 12:30

start: 29.10.2021

Tutorial: Cognitive Neuroscience

Prashanti Ganesh (Berlin School of Mind and Brain)

venue: Zoom

Elective Courses:

Focus MIND

Monday 14:30 – 16:00

start: 25.10.2021

The Epistemology of Consciousness: Historical Background and Recent Developments

Prof. Dr. Michael Pauen (Institut für Philosophie, HU Berlin / Berlin School of Mind and Brain) / Prof. Dr. John-Dylan Haynes (Bernstein Center for Computational Neuroscience Berlin)

In person class: Limited places for external students!

venue: The venue will be announced soon!

MIND / BRAIN

The problem of consciousness has led to some of the most vigorous and controversial debates of modern science. While some authors claim that we are about to solve the problem, others maintain that the problem is unsolvable, in principle.

In this seminar we want to take something like a meta perspective in order to understand why consciousness is such a controversial issue. In order to do so, we will try to better understand the historical background of the debate both in early modern philosophy and in the Post World War era. The main focus of the seminar will then be on epistemological aspects, particularly on the requirements for an adequate explanation of consciousness. In the last part we will discuss recent empirical contributions that may enhance our understanding of the problem.

Literatur: Taylor, E. (2016). "Explanation and the Explanatory Gap." *Acta Analytica* 31(1): 77-88; Pauen, M. (2017). "The Functional Mapping Hypothesis." *Topoi* 36(1): 107-118; Haynes, J. D. (2014). "An information-based approach to consciousness: Mental state decoding."; Michel, M. and J. Morales (2019). "Minority Reports: Consciousness and the Prefrontal Cortex." *Mind and Language*: 1-21.

Tuesday 10:15 – 11:45

start: 19.10.2021

Topics in Cognitive Modelling

Inês Hipólito (Berlin School of Mind and Brain / Institut für Philosophie, HU Berlin)

venue: Zoom

MIND

Cognitive models are, essentially, theories of cognitive activity (decision-making, belief formation, perception, learning, etc.) implemented in computer simulations. Theories aim at explaining the cognitive activity that generated the data collected. Models are thereby constructed and developed to test these theories. In this course we will enquire cognitive models from three philosophical fronts: *representation & explanation*, *realism vs instrumentalism*, and *feminist philosophy of science*. What ontological claims about cognition can reasonably be made on the basis of a model? Does a model accurately *represent* the cognitive phenomenon under study? If it does not, what kinds of things are cognitive models and how do they have *explanatory virtue*? Do properties of the model *exist* beyond the model itself or are they useful *constructs* that enable cognitive patterns to be predicted? Cognitive models, as tools to test theories, leverage modellers' assumptions. Is model-based reasoning affected by cognitive biases? If so, how to overcome them? By the end of the course students are expected to be equipped to critically think the ontology and epistemology of scientific models specifically in the context of computational models of cognitive behaviour. Classes will be conducted as interactive lecture/discussions.

Tuesday 16:15 – 17:45

start: 19.10.2021

Representation and Computation in Cognitive Science

Dr. Dimitri Coelho Mollo (Cluster Science of Intelligence, HU Berlin / Berlin School of Mind and Brain)

In person class: Limited places for external students!

venue: Rhoda-Erdmann-Haus, Philippstraße 13, 10115 Berlin, room 1023

MIND

The aim of this course is to dig deep into the foundations of Cognitive Science, examining its conceptual underpinnings. The focus will be on the nature and explanatory role of the notions of representation, computation, and cognitive architecture. We will delve into issues such as: What is a representation? How do cognitive states represent, and what determines their representational content? What does it mean to say that the cognitive system computes? What are cognitive architectures and how to assess their explanatory adequacy? We will take a look at texts in philosophy, psychology, and neuroscience in trying to answer these questions.

Wednesday 12:15 – 13:45

start: 20.10.2021

Philosophical Psychology

Inês Hipólito (Berlin School of Mind and Brain / Institut für Philosophie, HU Berlin)

venue: Zoom

MIND

Eliminativism about the mind states that mental states do not actually exist and have no role to play in mature science of the mind. If *eliminativism* is true, then all that there is to understand about the psychological experience should be done so by the scientific method. This position raises many questions to the mind and brain research. Does eliminating mental life to neuronal activity and its understanding exclusively to the scientific method leave any role to clinical psychology? Should psychopathological treatment reduce to neuronal intervention? Should experiments in psychology eliminate mental life to neurobiological activity? Is the experimental method sufficient to understand all that there is to understand about the nature of the mind and psychological experience? If, on the contrary, *eliminativism* is wrong how then to set up experiments that do not eliminate the situated psychological experience? Do experimental settings imply *eliminativism*? In this course we will scrutinise experimental settings in cognitive psychology in the light of our discussion of these philosophical questions. By the end of the course students are expected to understand the complexity of the ontology of psychological experience and its philosophical implications to experimental and therapeutical settings in the mind and brain. Classes will be conducted as interactive lecture/discussions.

Focus BRAIN

Tuesday 13:30 – 15:00

start: 19.10.2021

Research seminar: Intentional and cognitive control of behaviour

Prof. Dr. Marcel Brass (Berlin School of Mind and Brain)

venue: Zoom

BRAIN

*Mind and Brain students **only!***

In our daily life, we permanently have to adjust our behaviour to changing environmental demands. But how can we adjust so flexibly to new tasks and contexts? In this seminar we will discuss the cognitive and neural mechanisms that allow this flexibility. International researchers working in the field will discuss their ongoing research on cognitive and intentional control of behaviour. Their presentations will be alternated with student presentations introducing the relevant topics.

Colloquia:

Monday 10:00 – 11:30

start: 25.10.2021

Research Colloquium

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

venue: Zoom

BRAIN

Participation by appointment only. Please contact my lab manager Meri Lehmuskallio **by 1st October** if you want to sign up for the colloquium: psysekks@hu-berlin.de.

Tue 11:00 – 12:30

start: 26.10. 2021

Research Colloquium: Social Intelligence

Prof. Dr. Marcel Brass (Berlin School of Mind and Brain)

venue: Zoom

Brain

The colloquium is open for advanced students who are interested in social and cognitive neuroscience.

Participation by appointment only. Please contact: mb-socintel@hu-berlin.de

Monday 18:15 – 19:45

start: 25.10.2021

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

Philosophical Research-Colloquium

venue: In person / Zoom

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 Ms Anja Papenfuss if you want to sign up for the colloquium: mb-admin@hu-berlin.de.

If you have questions, please contact

Dr. Dirk Mende

mb-education@hu-berlin.de

~~+49 (0)30 2093-89768~~ (Currently not available, please send an email! Thanks!)

NB: The lectures/courses which are flagged as “For Mind and Brain students only!” are for Mind and Brain students ONLY!

Please find information about the course requirements for student of OTHER programs here:

<http://www.mind-and-brain.de/master/external-students/>

If you are a student of Humboldt-Universität zu Berlin, please register for our courses in the Überfachlicher Wahlpflichtbereich section of AGNES!

If you are a student of another university, please print out the Registration as guest auditor / visiting student form you find on our website: <http://www.mind-and-brain.de/master/external-students/>
The form has to be signed by the lecturer of the class you plan to attend and the master’s program coordinator (Dirk Mende).