

Master and PhD Program Computational Neuroscience Recommended Courses and Programs, WiSe 2020/21

These courses are recommended for **senior master students** of Computational Neuroscience (at least in their 3rd semester) and for **PhD students** as Courses on Advanced Topics / Hard Skill Courses.

We recommend that master students in the 1st and 2nd semesters concentrate on the compulsory BCCN courses: <http://www.bccn-berlin.de/Teaching/Courses+and+Modules/>

Please choose courses for Individual Studies and Advanced Topics **upon consultation with your mentor!** Only master courses can be recognized for Courses on Advanced Topics.

You can also search for courses yourself in the course catalog of the respective university.

HU Berlin: <https://agnes.hu-berlin.de>

TU Berlin: <https://moseskonto.tu-berlin.de/moses/verzeichnis/index.html>

FU Berlin: <https://www.fu-berlin.de/vv/de/fb>

For questions and feedback: graduateprograms@bccn-berlin.de

As not all offered courses of Berlin universities are online yet, this is a preliminary version of the list.

TITLE	CONTACT	LINK and INFO
TU Berlin		
Current Topics in Computational Neuroscience (seminar series, in English)	Prof. Henning Sprekeler (h.sprekeler@tu-berlin.de)	TU Berlin Current Topics Computational Neuroscience
Brain-Computer Interfacing (lecture and tutorial, in English)	Prof. Benjamin Blankertz (benjamin.blankertz@tu-berlin.de)	TU Berlin Chair for Neurotechnology (to be updated)
Advanced topics in Reinforcement Learning (seminar, in English)	Dr. Vaios Laschos (vaios.laschos@tu-berlin.de) Prof. Klaus Obermayer (oby@ni.tu-berlin.de)	TU Berlin Advanced topics in Reinforcement Learning
Integrated Lecture Machine Learning I (lecture + tutorial)	Prof. Klaus Robert Müller (klaus-robert.mueller@tu-berlin.de)	TU Berlin Machine Learning
Integrated Lecture Cognitive Algorithms (lecture + tutorial)	Prof. Klaus Robert Müller (klaus-robert.mueller@tu-berlin.de)	TU Berlin Machine Learning
Python Programming for Machine Learning	Prof. Klaus Robert Müller (klaus-robert.mueller@tu-berlin.de)	TU Berlin Machine Learning
Projects in Machine Learning and Artificial Intelligence (German/ English)	Prof. Manfred Opper (manfred.opper@tu-berlin.de) Cordula Lippke (cordula.lippke@tu-berlin.de)	TU Berlin Projects in Machine Learning
Künstliche Intelligenz: Grundlagen und Anwendungen (lecture + seminar, in German)	Prof. Manfred Opper (manfred.opper@tu-berlin.de) Prof. Sahin Albayrak (sahin.albayrak@tu-berlin.de) Dr. Stefan Fricke (stefan.fricke@tu-berlin.de)	TU Berlin Künstliche Intelligenz - Grundlagen und Anwendungen

	Sebastian Thiel (sebastian.thiel@campus.tu-berlin.de) Cordula Lippke (cordula.lippke@tu-berlin.de)	
TITLE	CONTACT	LINK and INFO
Probabilistic and Bayesian Modelling in ML and AI (Summer Semester)	Prof. Manfred Opper (manfred.opper@tu-berlin.de)	TU Probabilistic and Bayesian Modelling in ML and AI
Monte Carlo Methods in Machine Learning and Artificial Intelligence (Summer Semester, lecture + exercise)	Prof. Manfred Opper (manfred.opper@tu-berlin.de) Andreas Ruttor (andreas.ruttor@tu-berlin.de)	TU Monte Carlo Methods in Machine Learning and Artificial Intelligence
Project KI - symbolische Künstliche Intelligenz (Summer Semester, project, in German)	Dr. Stefan Fricke (stefan.fricke@tu-berlin.de)	TU Berlin KI Projekt
Applications of Robotics and Autonomous Systems / (Project, in English)	Sahin Albayrak and Orhan Can Görür (lehre@lists.dai-labor.de)	TU Applications of Robotics and Autonomous Systems
Robotics - Robotics - Computational Biology - Robotics Project	Prof. Oliver Brock (oliver.brock@tu-berlin.de)	TU Berlin Robotics
Brain-Computer-Interfacing: from Neurons to Data (Summer Semester, integrated lecture)	Daniel Miklody (miklody@tu-berlin.de) Prof. Benjamin Blankertz (benjamin.blankertz@tu-berlin.de)	TU Berlin Brain Computer Interfacing (to be updated)
Quality and Usability Lab - Sprachkommunikation / Speech Communication - Medieninformatik Einführung - Computer-supported Interaction - Communication Acoustics (MOOC) - Usable Privacy - Biometric Identification and Verification - Affective Computing - Neuro-Usability - Study Project Quality and Usability - Medienprojek (Modul: Interdisziplinäres Medienprojekt) - Forschungskolloquium Usability	Prof. Sebastian Möller (sebastian.moeller@telekom.de)	TU Berlin Quality and Usability Lab* (to be updated)
Stochastic Processes in Neuroscience I (lecture)	Prof. Tilo Schwalger (tilo.schwalger@tu-berlin.de) Prof. Wilhelm Stannat (wilhelm.stannat@tu-berlin.de)	TU Berlin Stochastic processes in neuroscience I (to be updated)
Stochastic Processes in Neuroscience II (lecture)	Prof. Tilo Schwalger (tilo.schwalger@tu-berlin.de) Prof. Wilhelm Stannat (wilhelm.stannat@tu-berlin.de)	TU Berlin Stochastic processes in neuroscience II (to be updated)

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Stochastic Models in Neuroscience (seminar)	Prof. Tilo Schwalger (tilo.schwalger@tu-berlin.de) Prof. Wilhelm Stannat (wilhelm.stannat@tu-berlin.de)	TU Berlin Stochastic models in neuroscience (to be updated)
Nichtlineare Dynamik und Strukturbildung (seminar, in German)	Prof. Harald Engel (harald.engel@tu-berlin.de)	TU Berlin Nichtlineare Dynamik und Strukturbildung
HU Berlin		
Anwendungen der Signalverarbeitung und Mustererkennung (seminar, in German)	Prof. Beate Meffert meffert@informatik.hu-berlin.de	HU Berlin Signalverarbeitung
Machinelles Lernen in der Robotik (seminar, in German)	Prof. Verena Hafner (hafner@informatik.hu-berlin.de)	HU Berlin Machinelles Lernen in der Robotik
Allgemeine Psychologie: Aktive Wahrnehmung und Kognition: "Effektive Visualisierung von Daten: Theoretische Grundlagen und praktische Umsetzung" (colloquium, in English)	Prof. Martin Rolfs (martin.rolfs@hu-berlin.de)	HU Berlin Neurokognitive Psychologie: Allgemeine Psychologie
Neurophysiologie (lecture, in German)	Prof. Matthias Hennig (matthias.hennig@biologie.hu-berlin.de)	HU Berlin Neurophysiologie
Mathematische Modellierung biologischer Systeme (practical, in German)	Prof. Edda Klipp (edda.klipp@rz.hu-berlin.de)	HU Berlin Mathematische Modellierung biologischer Systeme
Modelle zellulärer Prozesse (lecture, in German)	Prof. Edda Klipp (edda.klipp@rz.hu-berlin.de)	HU Berlin Modelle zellulärer Prozesse
Mathematische Modellierung in der quantitativen Biologie (lecture + seminar, in German)	Prof. Hanspeter Herzel (h.herzel@cms.hu-berlin.de) Prof. Nils Blüthgen (nils.bluethgen@charite.de)	HU Berlin Mathematische Modellierung quantitative Biologie
Computational Biology / Bioinformatics (lecture + seminar, in German)	Prof. Hanspeter Herzel (h.herzel@cms.hu-berlin.de) Prof. Nils Blüthgen (nils.bluethgen@charite.de)	HU Berlin Bioinformatics
Computerübungen Simulation von mathematischen Modellen (practical, in German)	Prof. Nils Blüthgen (nils.bluethgen@charite.de)	HU Berlin Computerübungen Simulation von mathematischen Modellen
Cognition, behaviour and evolution (lecture and seminar)	Prof. York Winter (york.winter@charite.de)	HU Berlin Cognition Behaviour Evolution
Cognitive Neurobiology: current topics (seminar, in English)	Prof. York Winter, (york.winter@charite.de)	HU Berlin Current Topics Cognitive Neurobiology
Grundlagen und Anwendungen der Kognitionspsychologie (lecture, in German)	Prof. Elke van der Meer (vdmeer@rz.hu-berlin.de)	HU Berlin Grundlagen Anwendungen Kognitionspsychologie

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Neurowissenschaftliche Methoden (lecture + practical, in German)	Dr. Olaf Dimigen (olaf.dimigen@hu-berlin.de)	HU Berlin Neurowissenschaftliche Methoden
Kognitionswissenschaft I (lecture series, in German)	Prof. Rasha Abdel Rahman (rasha.abdel.rahman@psychologie.hu-berlin.de)	HU Berlin Ringvorlesung Kognitionswissenschaft
Neuro-Kognitive Psychologie (colloquium, in German)	Prof. Rasha Abdel Rahman (rasha.abdel.rahman@psychologie.hu-berlin.de) Dr. Anna Kuhlen (anna.kuhlen@hu-berlin.de)	HU Berlin Neuro-Kognitive Psychologie
Seminar zur nichtlinearen Dynamik und statistischen Physik (research seminar, in German)	Prof. Igor Sokolov (igor.sokolov@physik.hu-berlin.de) Prof. Benjamin Lindner (benjamin.lindner@physik.hu-berlin.de)	HU Berlin Nichtlineare Dynamik und statistische Physik
Neuronale Systeme (lecture, in German)	Prof. Benjamin Lindner (benjamin.lindner@physik.hu-berlin.de)	HU Berlin Neuronale Systeme
Seminar zur Neurophysik (seminar, in German)	Prof. Benjamin Lindner (benjamin.lindner@physik.hu-berlin.de)	HU Berlin Neurophysik
Multivariate Statistical Analysis I (lecture)	Dr. Matthias Eckardt (m.eckardt@hu-berlin.de)	HU Berlin Multivariate Statistical Analysis
Datenanalyse II (Seminar, in German)	Dr. Sigbert Klinka (sigbert@wiwi.hu-berlin.de)	HU Berlin Datenanalyse
FU Berlin		
Neurobiologie und Verhalten A und B (block course, in German)	Prof. Constance Scharff (constance.scharff@fu-berlin.de)	FU Berlin Neurobiologie und Verhalten
Structure and Function of Neural Circuits I and II (lecture + seminar, in English)	Prof. Mathias Wernet (mathias.wernet@fu-berlin.de)	FU Berlin Structure and Function of Neural Circuits
Autonome Fahrzeuge (research seminar, in German)	Dr. Daniel Goehring (drgoehring@zedat.fu-berlin.de)	FU Berlin Künstliche Intelligenz autonome Fahrzeuge
Artificial and Collective Intelligence (research seminar, German/English)	Prof. Tim Landgraf (tim.landgraf@fu-berlin.de)	FU Berlin Artificial and Collective Intelligence
Journal Club Computational Biology (seminar)	Prof. Knut Reinert (knut.reinert@fu-berlin.de)	FU Berlin Journal Club Computational Biology
Einführung in die Neurobiologie und Neuroinformatik für Bioinformatiker (lecture, in German)	Prof. Peter Robin Hiesinger (p.rh@fu-berlin.de) Prof. Ursula Koch (ursula.koch@fu-berlin.de)	FU Einführung Neurobiologie Neuroinformatik

TITLE	CONTACT	LINK and INFO
Decision Neuroscience (seminar, in German)	Rasmus Bruckner (rasmusb@zedat.fu-berlin.de)	FU Berlin Decision Neuroscience
Klinische Neuropsychologie (seminar, in German)	Prof. Michael Niedeggen (niedegg@zedat.fu-berlin.de)	FU Berlin Klinische Neuropsychologie
The mammalian brain: structure, function and plasticity (lecture + seminar)	Prof. Ursula Koch (ursula.koch@fu-berlin.de)	FU Berlin The mammalian brain: structure, function and plasticity
Molekulare Neurogenetik (lecture, seminar + practical, in German)	Prof. Stephan Sigrist (stephan.sigrist@fu-berlin.de)	FU Berlin Molekulare Neurogenetik
Master Program SCAN (Social, Cognitive, Affective Neuroscience), in English Modules: - Social, Cognitive & Affective Neuroscience - Clinical SCAN - Statistical Methods - Applied Programming - Learning Memory & Decision Making - Advanced Neurocognitive Methods I & II	Dr. Jana Lüdtker (jana.luedtke@fu-berlin.de) Prof. Hauke Heekeren (hauke.heekeren@fu-berlin.de)	http://www.ewi-psy.fu-berlin.de/studium/Psychologie/social_cognitive_affective_neuroscience/Modules/index.html FU Berlin SCAN all courses
Courses offered by other schools and graduate programs in Berlin		
Master Program Molecular Medicine - Human Genetics - Functional Genomics - Developmental Genetics - Infections and Immune Response - Cardiovascular Diseases and Therapy - Cancer Diseases - Maintenance and Integrity of the Endocrine System	Dr. Sarah Bhargava (sarah.bhargava@charite.de) or http://www.molecular-medicine-berlin.com/en/metas/contact/adresse/bhargava-2/	http://www.molecular-medicine-berlin.com/en/program/modules/ Please contact the project coordinator for information about currently offered courses.
Berlin School of Mind and Brain (PhD and master courses) Modules: - Neuroanatomy and Neurophysiology - Neuroimaging - Cognitive Neuroscience - Basic Philosophical Concepts and Philosophy of Mind - Computational Neuroscience & Statistics - Cognitive Neuroscience - Lifespan and Plasticity - Clinical Neuroscience - Ethics and Neuroscience - Language and the Brain - Research Methods	mb-office@hu-berlin.de emb-education@hu-berlin.de	Mind & Brain Master all courses Please note that the courses flagged as "for mind and brain students only" cannot be attended by external students. If you are a student of Humboldt-Universität zu Berlin, please register for the Master 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 . This form will have to be signed by the lecturer of the class you plan to attend as well as by the Master's program coordinator. From this semester on, there is only one way to get credits in the Mind and Brain program: - You have to attend *two courses* (at least 75 % of all sessions) = *10 ECTS* - In both courses you have to fulfill smaller class requirements (usually a presentation) - In ONE of the two courses additionally you have to write a 20 p. paper (1 page equals 2000 characters without spaces) You don't have to attend both courses in the same semester!

TITLE	CONTACT	LINK and INFO
<p>Master Program Medical Neurosciences</p> <ul style="list-style-type: none"> - Basic Neurobiology - Working with Data - Neuropathophysiology - Advanced Problems and Topics in Neuroscience - Clinical Neuroscience - Academic Writing and Publishing - Experimental Design 	<p>Charité Dr. Benedikt Salmen (benedikt.salmen@charite.de)</p>	<p>http://www.medical-neurosciences.de/en/program/master/</p> <p>Please contact the contact person for information about currently offered courses.</p>
<p>Berlin Mathematical School Basic Courses and Advanced Courses covering the following topics:</p> <ul style="list-style-type: none"> - Differential geometry, global analysis, and mathematical physics - Algebraic and arithmetic geometry, number theory - Probability, statistics, and financial mathematics - Discrete Mathematics and combinatorial optimization - Geometry, topology and visualization - Numerical analysis and scientific computing - Applied analysis and differential equations 	<p>TU, HU, FU office@math-berlin.de</p>	<p>BMS Basic Courses BMS Advanced Courses</p> <p>Please contact the contact person for information about currently offered courses.</p>