UNIVERSITÄT ZU LÜBECK

Module Guide for the Study Path

Master Psychology 2016

Version from 1. October 2025

1st or 3rd semester

1st semester

1st semester at the earliest

2nd and 3rd semester

2nd or 3rd semester

2nd or 4th semester

2nd semester

2nd semester at the earliest

3rd semester

3rd semester at the earliest

4th semester

Arbitrary semester

AT4110-KP06 - Auditory Cognition (AudCog)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	6

Course of study, specific field and term:

- Master Psychology - Cognitive Systems 2022 (optional subject), psychology, 1st or 3rd semester
- Master Auditory Technology 2022 (compulsory), Auditory Technology, 1st semester
- Master Psychology 2016 (optional subject), psychology, 1st or 3rd semester
- Master Auditory Technology 2017 (compulsory), Auditory Technology, 1st semester

Classes and lectures:

- Basics in neurocognition of speech and hearing (lecture, 2 SWS)
- Advances in auditory cognition and auditory neurophysiology (seminar, 2 SWS)

Workload:

- 100 Hours private studies
- 60 Hours in-classroom work
- 20 Hours exam preparation

Contents of teaching:

- Basics of neuroanatomy
- Basic concepts of sensory physiology and perception
- Hearing, listening, and language comprehension as neural processes
- A neuropsychological view on language disorders across the life span (specific language impairment, aphasia)
- Basics of neural plasticity (with a focus on hearing loss, deafness, and cochlear implants)
- Basics of computational neuroscience

Qualification-goals/Competencies:

- Students develop the knowledge required to foster a more profound understanding on auditory cognitive processes, and on how they relate to physiology, perception, neuropsychology, and neuroscience.
- Students can actively use this knowledge, relate it to current topics in the literature, and transfer it onto new problems.

Grading through:

- written homework

Responsible for this module:

- Prof. Dr. rer. nat. Jonas Obleser

Teacher:

- Department of Neurology
- Department of Psychology

- Prof. Dr. rer. nat. Jonas Obleser
- Prof. Dr. rer. nat. Marcus Heldmann

Literature:

- Poeppel, D., Overath, T., Popper, A.N. & Fay, R.R.: The Human Auditory Cortex - (Springer Handbook of Auditory Research; Vol. 43). New York, NY: Springer. DOI: 10.1007/978-1-4614-2314-0

Language:

- German and English skills required

Notes:

Admission requirements for taking the module:
- None

Admission requirements for participation in module examination(s):
- Active contribution
- Ungraded presentation

Module examination(s):
- AT4110-L1: Auditory Cognition, term paper, 100% of the module grade

(proportion of Institute of Psychology I to V is 60%)
(proportion of Institute of Psychology I to S is 60%)
(Proportion of Clinic for Neurology in V is 40%)
(Proportion of Clinic for Neurology to S is 40%)

Also as an elective subject for psychology students an A certificate (graded)

PY4521-KP04 - Positive Organizational Psychology (POP)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master Psychology - Cognitive Systems 2022 (optional subject), psychology, 1st or 3rd semester
- Master Psychology 2016 (optional subject), psychology, 1st or 3rd semester

Classes and lectures:

- PY3204-KP04 Positive Organizational Psychology (seminar / exercises, 2 SWS)

Workload:

- 80 Hours private studies
- 30 Hours in-classroom work

Contents of teaching:

- Topics of positive organizational psychology, such as psychological capital, flow experience, social support/positive relationships, well-being, gratitude, meaning, humor, character strengths...
- Methods of positive organizational psychology (e.g. happiness diary, letter of gratitude, mindfulness training...)
- Exercise of selected positive-psychological interventions for the organizational context
- Design of target group specific interventions (e.g. as training, coaching, app, ...)
- Evaluation of interventions in organizations
- Due to the interactive design of the seminar and the practical work in small groups, attendance of 80% is compulsory in this module. As the seminar is offered in block dates, all dates must be attended in order to pass the module. This means that you will not be able to skip any of the dates completely. There are no substitutions.

Qualification-goals/Competencies:

- Getting to know a wide range of positive-psychological topics and methods
- Acquisition of skills to design demand-oriented interventions in organizations
- Experience with the execution of positive-psychological interventions
- Knowledge in the evaluation of interventions in an organisational context

Grading through:

- presentation
- B-Certificate (not graded)

Responsible for this module:

- Prof. Dr. Corinna Peifer

Teacher:

- Department of Psychology
- Prof. Dr. Corinna Peifer

Literature:

- Rose, N. (2019): Arbeit besser machen - Freiburg: Haufe
- Tomoff, M. (2018): Positive Psychologie in Unternehmen: Für Führungskräfte (2. Aufl.) - Berlin: Springer

Language:

- offered only in German

Notes:

Prerequisites for attending the module:
- None

Prerequisites for the exam:
- Compulsory attendance of 80%, all block dates must be attended.

Exam:
- PY4521-L1: Positive Psychology in Organizational Context, presentation, 100% of module grade

PY4010-KP10 - Advanced methods in behavioral sciences and neurosciences (MeVerNeu)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	10

Course of study, specific field and term:

- Master psychology 2013 (compulsory), psychology, 1st semester
- Master Psychology 2016 (compulsory), psychology, 1st semester

Classes and lectures:

- Multivariate Methods (lecture, 2 SWS)
- Multivariate Methods (seminar, 2 SWS)
- Clinical and neuroscientific research methods (lecture, 2 SWS)
- Clinical and neuroscientific research methods (exercise, 1 SWS)

Workload:

- 105 Hours in-classroom work
- 100 Hours private studies and exercises
- 95 Hours exam preparation

Contents of teaching:

- MULTIVARIATE ANALYSES:
- Overview on the various relevant multivariate methods, including
- multivariate regression analysis
- logistic regression
- hierarchical linear models
- confirmatory and exploratory factor analysis
- structural equation modelling in general
- cluster analysis and pattern recognition
- CLINICAL AND NEUROSCIENTIFIC RESEARCH METHODS:
- An introduction to the relevant research methods, incl. PET, fMRI, EEG, eye tracking, lesion studies
- TUTORIAL ON MULTIVARIATE ANALYSES:
- Computerized Interpretation of given data sets using multivariate analysis

Qualification-goals/Competencies:

- Acquire a deeper understanding in planning, running, and analysing more complex research designs
- Acquire the ability to run and interpret data analyses using established statistical analysis software (e.g SPSS, R, Matlab).
- Refined methodological, mathematical, and analytic thinking
- Extended ability to choose the adequate methods for a given research problem

Grading through:

- written exam

Responsible for this module:

- Prof. Dr. rer. nat. Jonas Obleser

Teacher:

- Department of Psychology
- Prof. Dr. rer. nat. Jonas Obleser
- Dr. Sebastian Puschmann

Literature:

- Rudolf und Müller: Multivariate Verfahren - (2012) Hogrefe
- Eid, Gollwitzer & Schmidt: Statistik und Forschungsmethoden - (2013) Beltz

Language:

- Will be offered using an audience-oriented mixture of German and English

Notes:

The module examination is considered passing if it was graded as at least sufficient.

PY4100-KP08 - Nosology of Mental Disorders (NosPsych)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	8

Course of study, specific field and term:

- Master Psychology 2016 (compulsory), psychology, 1st semester

Classes and lectures:

- lecture 1 psychotherapy (lecture, 2 SWS)
- course 1 psychotherapy (seminar with practical exercises, 2 SWS)
- course 2 psychotherapy (seminar with practical exercises, 2 SWS)

Workload:

- 105 Hours in-classroom work
- 95 Hours private studies and exercises
- 40 Hours exam preparation

Contents of teaching:

- WORKSHOPS WITH PATIENT PRESENTATION AND THE FOLLOWING TOPICS:
- Communication, therapeutic relationship and iterative hypothesis testing
- Unipolar and bipolar depressive disorders
- Panic disorder and agoraphobia
- Social phobia
- Posttraumatic stress disorder
- Generalized anxiety disorder
- Substance use disorder
- Schizophrenia
- Personality disorders
- Comorbid mental and medical disorders
- Adjustment disorders
- Obsessive compulsive disorders
- Dementia
- Somatic symptom disorder
- Eating disorder

Qualification-goals/Competencies:

- Factual knowledge about the symptomatology, classification, epidemiology, course and specific psychopathology of the listed disorders
- Procedural knowledge: ability to communicate with patients about nosological issuesMetacognitive knowledge about hypothesis generation processes during semi-standardized interviews

Grading through:

- written exam

Responsible for this module:

- Prof. Dr. rer. nat., Dipl.-Psych. Frieder Paulus

Teacher:

- Clinic for psychosomatics and psychotherapy
- Clinic of Psychiatry and Psychotherapy
- MitarbeiterInnen des Instituts

Literature:

- Kaplan & Sadock: Synopsis of Psychiatry: behavioral sciences, clinical psychiatry - Williams & Wilkins
- Berger: Psychische Erkrankungen

Language:

- offered only in German

Notes:

The module examination is considered passing if it was graded as at least sufficient

PY5200-KP08, PY5200 - Cognitive Neurosciences (KogNeuro)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	8

Course of study, specific field and term:

- Master Psychology 2016 (compulsory), psychology, 1st semester
- Master Auditory Technology 2017 (optional subject), psychology, 1st semester
- Master psychology 2013 (compulsory), psychology, 1st semester

Classes and lectures:

- lecture in Neuropsychology (lecture, 2 SWS)
- course in Neuropsychology1 (seminar, 1 SWS)
- course in Neuropsychology 2 (seminar, 2 SWS)

Workload:

- 166 Hours private studies
- 74 Hours in-classroom work

Contents of teaching:

- History and Methods of Cognitive Neuroscience
- Consciousness
- Attention
- Cognitive Control
- Social Control
- Motor Control
- Sleep and Memory
- Language
- Mental Arithmetic
- Emotion and Motivation
- Music persception
- Decision making
- Cognitive Functions of the cerebellum

Qualification-goals/Competencies:

- Understanding of methods of cognitive neuroscience
- Understanding of experimental designs in cognitive neuroscience
- Knowing structure-function relationship of the brain
- Self competency in terms of critical reflection and work with scientific literature
- Ability to structure newly acquired knowledge

Grading through:

- portfolio exam

Responsible for this module:

- Prof. Dr. rer. nat. Ulrike Krämer

Teacher:

- Institute of Medical Psychology
- Ph.D. Dr. Tatiana Goregliad Fjaellingsdal
- Prof. Dr. rer. nat. Ulrike Krämer
- Prof. Dr. rer. nat. Marcus Heldmann

Literature:

- Gazzaniga, Ivry und Mangun: Cognitive Neuroscience: The Biology of the Mind - W. W. Norton & Company
- Karnath & Thier: Kognitive Neurowissenschaften - Springer
- Jäncke: Lehrbuch Kognitive Neurowissenschaften - Huber

Language:

- offered only in German

Notes:

Prerequisites for attending the module:
- None

Prerequisites for the exam:
- None

Exam:
- PY5200-L1: Portfolio Exam Cognitive Neuroscience with a total of 100 points, divided as follows:
- 60 points for a written exam (90min)
- 40 points for the completion of seminar assignments

PY5370-KP04, PY5370 - Debates and Crises in Psychological Science (Debatten)

Duration:	Turnus of offer:	Credit points:
1 Semester	each summer semester	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, 1st semester at the earliest
- Master psychology 2013 (optional subject), psychology, 1st semester at the earliest

Classes and lectures:

- Debates and Crises in Psychological Science (seminar, 2 SWS)

Workload:

- 90 Hours private studies
- 30 Hours in-classroom work

Contents of teaching:

- Replication Crisis and Open Science (2015f.): self-doubt and navel-gazing in psychology.
- Popper and Eccles: The Origin of Falsificationism
- Eysenck and intelligence - is there such a thing as

Qualification-goals/Competencies:

- Students learn to critically reflect on the scientific traditions and lines of dissent in their field (psychology)
- Students develop an epistemological (what can we know?) approach to Neuroscience and Psychology
- Scientific Writing

Grading through:

- Written report
- contributions to the discussion
- B-Certificate (not graded)
- active participation in the exercises

Responsible for this module:

- Prof. Dr. rer. nat. Jonas Obleser

Teacher:

- Institute for History of Medicine and Science Studies
- Department of Psychology

- Prof. Dr. rer. nat. Jonas Obleser
- Prof. Dr. med. Cornelius Borck

Literature:

- : - Original texts are available from the lecturers.

Language:

- offered only in German

Notes:

Planned schedule:
Takes place in blocks of 6 mornings or afternoons.

Note
Award of credit points and grading by:
- Active participation during the exercise hours
- contributions to the discussion
- 4 of 5 short reaction papers (500-1000 words) submitted in time.

This is an ungraded B certificate.

PY4810-KP08, PY4810 - Pain (WPSchmerz)

Duration:	Turnus of offer:	Credit points:
2 Semester	each summer semester	8

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, 2nd and 3rd semester
- Master psychology 2013 (optional subject), psychology, 2nd and 3rd semester

Classes and lectures:

- Pain (seminar, 4 SWS)

Workload:

- 150 Hours private studies
- 60 Hours in-classroom work

Contents of teaching:

- Basic psychological and medical knowledge about pain and psychotherapeutic treatment of pain
- Psychological anamnesis and diagnostic in acute and chronic pain
- Behaviour-oriented therapy in acute and chronic pain
- Psychological principles and treatment of different pain syndromes (e.g., headache, face pain, ischemia and vascular pain, neuropathic pain, back pain, muscle and joint pain, bone pain, visceral pain
- Pain and pain treatment in special groups of patients (e.g., children, superior age, patients with a migration backround, patients with cognitive impairment)
- Pain and psychological treatment in different clinics (surgery, neurology, internal medicine, cardiology, gynaecology, orthopaedics, dermatology, ENT, oncology, palliative care, rehabilitation clinics)

Qualification-goals/Competencies:

- The students should acquire basic knowledge and skills in the application of psychological rules for acute and chronic pain
- They are able to integrate knowledge in different medical fields and to implement the knowledge in practice
- Purchase of psychotherapeutic basics in pain
- Students should be able to capture chronic pain in a bio-psycho-social model and also capture its impact

Grading through:

- written exam

Responsible for this module:

- Prof. Dr. phil. Dipl.-Psych. Michael Hüppe

Teacher:

-

- Prof. Dr. phil. Dipl.-Psych. Michael Hüppe

Literature:

- Fritsche,G. & Gaul (Hrsg.): Multimodale Schmerztherapie bei chronischen Kopfschmerzen - 2013, Verlag Thieme, Stuttgart
- Kröner-Herwig, B., Frettlöh, J., Klinger, R., Nilges, P. (Hrsg.): Schmerzpsychotherapie - 2011 (7. Aufl.), Springer Verlag, Berlin
- Otis JD: Managing chronic pain - 2007, Oxford University Press, Oxford

Language:

- offered only in German

Notes:

Attention: This modul lasts about 2 semester. The module examination is considered passing if it was graded as at least sufficient.

PY4820-KP04, PY4820 - Psychopathology (WPPsypa)

Duration:	Turnus of offer:	Credit points:
1 Semester	each semester	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, 2nd or 3rd semester
- Master psychology 2013 (optional subject), psychology, 2nd or 3rd semester

Classes and lectures:

- course in abnormal psychology (seminar-style lectures, 2 SWS)

Workload:

- 70 Hours private studies
- 20 Hours in-classroom work
- 15 Hours written report

Contents of teaching:

- Learning of assessments and the identification of psychopathological symptoms after AMDP
- - Comprehensive knowledge of the following psychopathological phenomena: (1) disturbances of consciousness(2) Orientation disorders(3) Attention and memory disorders(4) Formal thinking disorders(5) Fears and constraints(6) Delusion(7) Sensory delusions(8) Ego disturbances(9) Affectivity disorders(10) Drive and psychomotor disorders(11) Circadian features(12) Other disorders (e.g. suicidal tendencies)

Qualification-goals/Competencies:

- Factual knowledge: Knowledge of specialist terminology in the field of psychopathology, knowledge for research into psychopathology
- Procedural knowledge: Practical application of interview techniques in the field of psychopathology
- Metacognitive knowledge: strategic knowledge of the use of psychopathological concepts in diagnostics and therapy

Grading through:

- oral presentation
- active participation in the exercises

Responsible for this module:

- Prof. Dr. rer. nat., Dipl.-Psych. Frieder Paulus

Teacher:

- Clinic of Psychiatry and Psychotherapy
- Clinic for psychosomatics and psychotherapy
- Dr. rer. nat. Claudia Lange

Literature:

- Michael Taylor: Descriptive Psychopathology - Cambridge University Press, 2012
- Arbeitsgemeinschaft für Methodik und Dokumentation in der Psychiatrie (AMDP): Das AMDP-System, Manual zur Dokumentation psychiatrischer Befunde

Language:

- offered only in German

Notes:

The module examination is considered passing if it was graded as at least sufficient.

PY4840-KP04 - Healthy and Pathological psychological Ageing (PsyAlt4)

Duration:	Turnus of offer:	Credit points:
1 Semester	each summer semester	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, 2nd or 4th semester
- Master Psychology - Clinical Psychology and Psychotherapy 2022 (optional subject), psychology, Arbitrary semester
- Master Psychology - Clinical Psychology and Psychotherapy 2027 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Neuronale und psychologische Grundlagen des gesunden und pathologischen Alterns (Vorlesung) (lecture, 2 SWS)

Workload:

- 60 Hours private studies
- 60 Hours in-classroom work

Contents of teaching:

- Neural and cognitive basics underlying healthy and pathological aging
- Current and advanced methods in aging research: research designs, experiments, imaging methods (e.g. EEG, fMRI)
- Neural and cognitive changes of healthy aging: neurodegeneration, plasticity, learning and memory
- Neural and cognitive changes of pathological aging: MCI, dementia, Parkinson s disease
- Applications: prevention, cognitive trainings, lifelong learning

Qualification-goals/Competencies:

- Students acquire knowledge on the neural and cognitive changes of healthy and pathological aging and can critically reflect upon it .
- They will be able to research original literature in order to present, assess and critically discuss it within a group.
- They learn how to develop and prepare own knowledge as part of a scientific manuscript .

Grading through:

- written exam

Responsible for this module:

- Prof. Dr. rer. nat. Nico Bunzeck

Teacher:

- Department of Psychology
- Prof. Dr. rer. nat. Nico Bunzeck

Literature:

- Current original literature will be announced at the event:

Language:

- offered only in German

Notes:

Admission requirements for taking the module:
- None

Admission requirements for participation in module examination(s):
- None

Module Exam(s):
- PY-4840-L1: Gesundes und pathologisches psychologisches Altern, Klausur, 90min, 100% der Modulnote

PY4860-KP04, PY4860 - Hands on EEG data (EEGdata)

Duration:	Turnus of offer:	Credit points:	Max. group size:
1 Semester	every summer semester	4	10

Course of study, specific field and term:

- Master Auditory Technology 2022 (optional subject), psychology, 2nd semester
- Master psychology 2013 (optional subject), psychology, 2nd or 4th semester
- Master Psychology 2016 (optional subject), psychology, 2nd or 4th semester
- Master Auditory Technology 2017 (optional subject), psychology, 2nd semester
- Master Psychology - Cognitive Systems 2022 (optional subject), psychology, 2nd or 4th semester
- Master Psychology - Cognitive Systems 2027 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Seminar Hands on EEG data (seminar, 2 SWS)

Workload:

- 65 Hours private studies and exercises
- 30 Hours written report
- 25 Hours in-classroom work

Contents of teaching:

- Theoretical and practical knowledge to analyze EEG-data
- Introduction into EEG-signals: neural activity, signal generation, evoked potentials, oscillations
- Preprocessing: filtering, epoching, ICA, re-referencing, ERPs, time-frequency analysis
- Statistical Parametric Mapping (SPM)
- EEGlab

Qualification-goals/Competencies:

- Theoretical knowledge about EEG and data analysis
- Ability to analyze EEG data using SPM 8 and EEGlab in combination with Matlab
- Ability to create an SPM-based and ability to interpret the results of an EEG study and summarize in a scientific text

Grading through:

- Written report
- B-Certificate (not graded)

Responsible for this module:

- Prof. Dr. rer. nat. Nico Bunzeck

Teacher:

- Department of Psychology
- Dr. rer. biol.hum. Tineke Steiger

Literature:

- Present literature will be given in the course:

Language:

- offered only in German

Notes:

Prerequisites for attending the module:
- None

Prerequisites for the exam:
- None

Modul exam:
- PY4860 Hands on EEG data, report, 100% of module grade

PY4510-KP06 - Evaluating, presenting and communicating (BPK)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	6

Course of study, specific field and term:

- Master Psychology 2016 (compulsory), psychology, 2nd semester

Classes and lectures:

- Lecture: Scientific Communication (lecture, 2 SWS)
- Assessing, Presenting, and Communicating Results (seminar / exercises, 2 SWS)

Workload:

- 70 Hours private studies
- 60 Hours work on an individual topic (research and development) and written elaboration
- 45 Hours in-classroom work

Contents of teaching:

- Critically assessing scientific results and reports
- Highlighting methodological Problems and current developments in psychology
- Getting to know how to detect and avoid academic misconduct and plagiarism
- Scientific writing
- Presenting scientific results in graphical, spoken, and written form
- Getting to know software packages for producing grafics
- Getting to know Reference managing software

Qualification-goals/Competencies:

- Students deal critically with sience and scientific communication in an advanced section of their own study discipline.
- Students are able to structure valid arguments and critically discuss results
- Students can differentiate between scientific and expert communication on the one hand and amateur communication on the other hand.
- Students learn to differentiate contexts of scientific versus lay communication
- Students refine their skills in preparing and presenting oral talks and posters

Grading through:

- written exam

Responsible for this module:

- Prof. Dr. rer. nat. Jonas Obleser

Teacher:

- Department of Psychology

- Prof. Dr. rer. nat. Jonas Obleser
- PD Dr. rer. nat. Malte Wöstmann

Literature:

- Könneker, C. (2012): Wissenschaft Kommunizieren - Weinheim: WILEY-VCH
- APA (2010: Publication Manual (6th Edition) - Washington, DC: APA
- Weber-Wulff , D. (2014: False Feathers - Heidelberg: Springer
- Chambers, C. (2017): The seven deadly sins of Psychology. - Princeton, NJ: Princeton University Press

Language:

- German and English skills required

Notes:

In the lecture multiple context referring to communication are created, concerning science, econnomy and media, where students present, evluate and communicate scientific results.
Prerequisite for admission to the written examination are the individually presented subjects.

PY4600-KP08 - Diagnostics of psychic disorders (DiagPsych8)

Duration:	Turnus of offer:	Credit points:
1 Semester	each summer semester	8

Course of study, specific field and term:

- Master Psychology 2016 (compulsory), psychology, 2nd semester

Classes and lectures:

- course 1 (seminar with practical exercises, 2,5 SWS)
- course 2 (seminar with practical exercises, 2,5 SWS)

Workload:

- 110 Hours in-classroom work
- 100 Hours private studies and exercises
- 30 Hours exam preparation

Contents of teaching:

- WORKSHOPS WITH PATIENTS ON THE FOLLOWING TOPICS:
- Diagnostic Interviews: SKID I, SKID II
- Expert ratings: GAF, SOFAS, GARF, Hamilton Depression Scale, Hamilton Anxiety Scale, SANS, SAPS, QIDS
- Self-ratings: Symptom load, quality of life
- Intelligence testing
- Diagnostic methods for specific mental disorders: depression, anxiety, substance use, eating disorders, somatic symptom disorders, pain, sexual dysfunctions, sleep disorders, personality disorders
- Operationalized Psychodynamic Diagnostics (OPD)
- Iterative hypothesis testing and diagnostic reasoning
- Medical assessment, laboratory testing and neuroimaging in the diagnosis of mental disorders
-
-

Qualification-goals/Competencies:

- Factual knowledge: terminology of diagnostics
- Procedural knowledge: practical application of diagnostic interviews and expert ratings in patients with mental disorders
- Strategic knowledge: Differential indication and validity of the available diagnostic interviews, expert and self-ratings

Grading through:

- written exam

Responsible for this module:

- Prof. Dr. rer. nat., Dipl.-Psych. Frieder Paulus

Teacher:

- Clinic for psychosomatics and psychotherapy
- Clinic of Psychiatry and Psychotherapy

- Prof. Dr. phil. Dipl.-Psych. Michael Hüppe
- Priv.-Doz. Dr. phil. Dipl.-Psych. Hans-Jürgen Rumpf
- Prof. Dr. med. Klaus Junghanns
- Dr. med. Bartosz Zurowski

Literature:

- Rush: Handbook of Psychiatric Measures - American Psychiatric
- Döpfner: Diagnostik psychischer Störungen im Kindes- und Jugendalter - Hogrefe

Language:

- offered only in German

Notes:

The module examination is considered passing if it was graded as at least sufficient

PY4700-KP08 - Clinical Neuropsychology (KlinNeuro8)

Duration:	Turnus of offer:	Credit points:
1 Semester	each summer semester	8

Course of study, specific field and term:

- Master Psychology 2016 (compulsory), psychology, 2nd semester

Classes and lectures:

- lecture in Neuropsychology (lecture, 2 SWS)
- course in Neuropsychology1 (seminar with practical exercises, 2 SWS)
- courde in Neuropsychology 2 (seminar, 2 SWS)

Workload:

- 150 Hours private studies
- 90 Hours in-classroom work

Contents of teaching:

-
-
-
-
-

Qualification-goals/Competencies:

-
-
-
-
-

Grading through:

- written exam

Responsible for this module:

- Prof. Dr. rer. nat. Marcus Heldmann

Teacher:

- Department of Neurology
- Prof. Dr. rer. nat. Marcus Heldmann
- Dr. rer. hum. biol., Dipl.-Psych. Anja Fellbrich

Literature:

- :

Language:

- offered only in German

PY5310-KP04, PY5310 - Human Genetics (Psychology) (WPGenetik)

Duration:	Turnus of offer:	Credit points:	Max. group size:
1 Semester	each winter semester	4	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, 2nd semester at the earliest
- Master psychology 2013 (optional subject), psychology, 2nd semester at the earliest

Classes and lectures:

- Participation in genetic counselling (team work, 1 SWS)
- Basic knowledge of genetics (seminar, 1 SWS)

Workload:

- 70 Hours private studies
- 35 Hours in-classroom work

Contents of teaching:

- Participation in genetic counselling
- Basic knowledge ofa) frequent genetic conditionsb) predictive genetic diagnosticsc)preimplantation genetic diagnosisd)hereditary tumor conditions
- Knowledge of ethical problems especially concerning prenatal diagnosis

Qualification-goals/Competencies:

- Knowledge about genetic basis of diseases
- Conversation skills in genetic counselling
- Interdisciplinary team working
- Skills to take part in ethical discussions

Grading through:

- Viva Voce or test

Responsible for this module:

- Prof. Dr. rer. nat. Christine Zühlke

Teacher:

- Institute of Human Genetics

- Prof. Dr. rer. nat. Christine Zühlke
- Priv.-Doz. Dr. med. Yorck Hellenbroich
- Dr. med. Irina Hüning

Literature:

- Murken, Grimm, Holinski-Feder & Zerres: Taschenbuch Humangenetik - 2011
- Schaaf & Zschocke: Basiswissen Humangenetik - 2007

Language:

- offered only in German

CS4660-KP04, CS4660 - Process Control Systems (ProzFueSys)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master Robotics and Autonomous Systems 2019 (optional subject), Module part Current Issues Robotics and Automation, Arbitrary semester
- Master Psychology 2016 (optional subject), interdisciplinary competence, 3rd semester
- Master psychology 2013 (optional subject), interdisciplinary competence, 3rd semester
- Master Media Informatics 2014 (compulsory), computer science, 3rd semester
- Master Computer Science 2012 (optional subject), specialization field robotics and automation, 2nd or 3rd semester
- Master Computer Science 2012 (compulsory), specialization field media informatics, 2nd semester
- Master Entrepreneurship in Digital Technologies 2020 (optional subject), specific, Arbitrary semester

Classes and lectures:

- Process Control Systems (lecture, 2 SWS)
- Process Control Systems (exercise, 1 SWS)

Workload:

- 55 Hours private studies
- 45 Hours in-classroom work
- 20 Hours exam preparation

Contents of teaching:

- Introduction and Overview
- Incidents and Accidents
- Error, Failure and Responsibility
- Human Factors
- Mental, conceptual and technical Models
- Task Analysis and Task Modelling
- Event Analysis and Event Modelling
- Task Allocation
- Situation Awareness
- Diagnoses und Contingency
- Interaction in real-time: Conception and Design
- Risk and Safety
- Operations and Safety

Qualification-goals/Competencies:

- The students know the most important theories, methods and systems for monitoring and controlling processes.
- They know the definitions of the terms risk and security and why they are applied in different ways.
- They can assess what needs to be considered in the development of mission- and safety-critical human-machine systems and how to proceed methodically.

Grading through:

- written exam

Responsible for this module:

- Prof. Dr. phil. André Calero Valdez

Teacher:

- Institute for Multimedia and Interactive Systems
- Prof. Dr. phil. André Calero Valdez

Literature:

- M. Herczeg: Prozessführungssysteme Sicherheitskritische Mensch-Maschine-Systeme und Interaktive Medien zur Überwachung und Steuerung von Prozessen in Echtzeit - München: de Gruyter - Oldenbourg-Verlag, 2014
- M. Herczeg: Software-Ergonomie: Theorien, Modelle und Kriterien für gebrauchstaugliche interaktive Computersysteme - 4. erweiterte und aktualisierte Auflage. De Gruyter Studium, 2018
- M. Herczeg: Interaktionsdesign - München: Oldenbourg-Verlag, 2006
- J. Reason: Human Error - Boston: Cambridge University Press, 1990
- J. Rasmussen, L. P. Goodstein, A. M. Peijtersen: Cognitive Systems Engineering - New York: Wiley, 1994

Language:

- offered only in German

Notes:

Prerequisites for attending the module:
- None

Prerequisites for the exam:
- Successful completion of homework assignments during the semester.

PY4200-KP08 - Nosology of Neurological Disorders (NosNeuro)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	8

Course of study, specific field and term:

- Master Psychology 2016 (compulsory), psychology, 3rd semester

Classes and lectures:

- Neurologic disorders (lecture, 2 SWS)
- Neurologic disorders (seminar, 2 SWS)
- Clinical visits in neurologic disorders (exercise, 1 SWS)

Workload:

- 100 Hours in-classroom work
- 95 Hours private studies
- 45 Hours exam preparation

Contents of teaching:

-
-
-
-
-
-

Qualification-goals/Competencies:

-
-
-
-

Grading through:

- written exam

Responsible for this module:

- Prof. Dr. med. Thomas Münte

Teacher:

- Department of Neurology
- Prof. Dr. rer. nat. Marcus Heldmann

Literature:

- :
- :

Language:

- offered only in German

PY5100-KP08, PY5100 - Therapy of Mental Disorders (TheraPsych)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	8

Course of study, specific field and term:

- Master Psychology 2016 (compulsory), psychology, 3rd semester
- Master psychology 2013 (compulsory), psychology, 3rd semester

Classes and lectures:

- course 1 Therapy of Mental Disorders (seminar with practical exercises, 2 SWS)
- course 2 Therapy of Mental Disorders (seminar with practical exercises, 2 SWS)
- course 3 Therapy of Mental Disorders (seminar with practical exercises, 1 SWS)

Workload:

- 110 Hours private studies and exercises
- 90 Hours in-classroom work
- 40 Hours exam preparation

Contents of teaching:

- WORKSHOPS WITH THE FOLLOWING TOPICS:
- Overview of all techniques listed in in Common Language for Psychotherapy
- Asstertiveness training
- Cognitive-behavioral therapies for depression, anxiety, eating disorder, somatic symptom disorder, pain, substance use disorders, sleep disorders
- Dialectical behavioral therapy DBT
- Cognitive behavioral analysis system of psychotherapy CBASP
- Metacognitive therapy
- Emotion Focused Psychotherapy
- Mentalization Based Therapy
- Schema Therapy
- Mindfulness Based Cognitive Therapy MBCT
- Acceptance and Commitment Therapy ACT

Qualification-goals/Competencies:

- Factual knowledge: knowledge about a current canon of manualized psychotherapy methods
- Procedural knowledge: knowledge about the specific techniques and algorithms underlying the listed methods
- Ability to critically reflect about the evidence base of the listed methods
- Metacognitive knowledge: Strategic considerations about the differential use of the listed methods

Grading through:

- written exam

Responsible for this module:

- Prof. Dr. rer. nat., Dipl.-Psych. Frieder Paulus

Teacher:

- Clinic for psychosomatics and psychotherapy
- Clinic of Psychiatry and Psychotherapy

- Dr. phil. Dipl.-Psych. Valerija Sipos
- Prof. Dr. phil. Dipl.-Psych. Michael Hüppe
- Dr. rer. nat. Dipl.-Psych. Julia Czaja
- Dr. rer. nat. Dipl.-Psych. Kristin Heinecke
- Priv.-Doz. Dr. phil. Dipl.-Psych. Hans-Jürgen Rumpf
- Dr. phil. Dipl.-Psych. Gallus Bischof
- Dipl.-Psych. Ulrike Gertzen

Literature:

- : CBT Manuale aus der blauen Reihe - Hogrefe

Language:

- offered only in German

Notes:

The module examination is considered passing if it was graded as at least sufficient.

PY5300-KP10 - Clinical internship (BePra_ab16)

Duration:	Turnus of offer:	Credit points:
1 Semester	each semester	10

Course of study, specific field and term:

- Master Psychology 2016 (compulsory), psychology, 3rd semester

Classes and lectures:

- experiencing a working environment (external block practical course, 20 SWS)

Workload:

- 300 Hours in-classroom work

Contents of teaching:

- To gather a real-life experience in the working environment in the field of Neuropsychology, clinical psychology and psychotherapy or similar. The internship usually takes place in a clinic or in similar institutes. It is desired to deepen the acquired knowledge from the master's programme. Furthermore, new relevant skills should be added.

Qualification-goals/Competencies:

- the ability to structurize and apply the learned theories and concepts
- the possibility to gather the first working experiences
- to expand the communication skills in professional environment
- to analyse and evaluate the concepts to possibly develop a topic for the master's thesis

Grading through:

- continuous, successful participation in practical course

Responsible for this module:

- Prof. Dr. rer. nat. Nico Bunzeck

Teacher:

- External research institutions and companies
- Department of Psychology
- Clinic for psychosomatics and psychotherapy
- Clinic of Psychiatry and Psychotherapy
- Department of Neurology
- Universitätsklinikum S-H

- Dipl.-Psych. Michaela Haller

Language:

- thesis can be written in German or English

Notes:

The Creditpoints (non graded) will be posted when the report of the internship is submitted. The internship is not bound to a semester.

CS3010-KP04, CS3010 - Human-Computer-Interaction (MCI)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master Entrepreneurship in Digital Technologies 2020 (optional subject), interdisciplinary competence, Arbitrary semester
- Bachelor Computer Science 2019 (compulsory), foundations of computer science, 5th semester
- Bachelor Robotics and Autonomous Systems 2020 (optional subject), computer science, 5th or 6th semester
- Bachelor Medical Informatics 2019 (optional subject), computer science, 4th to 6th semester
- Master Biophysics 2019 (optional subject), Elective, 1st semester
- Master Psychology 2016 (optional subject), interdisciplinary competence, 3rd semester at the earliest
- Bachelor Computer Science 2016 (compulsory), foundations of computer science, 5th semester
- Bachelor IT-Security 2016 (compulsory), computer science, 3rd semester
- Bachelor Robotics and Autonomous Systems 2016 (optional subject), computer science, 5th or 6th semester
- Master Entrepreneurship in Digital Technologies 2014 (optional subject), interdisciplinary competence, Arbitrary semester
- Master psychology 2013 (optional subject), interdisciplinary competence, 3rd semester
- Master Medical Informatics 2014 (optional subject), computer science, 1st or 2nd semester
- Bachelor Computer Science 2014 (compulsory), foundations of computer science, 5th semester
- Bachelor Medical Informatics 2014 (optional subject), computer science, 5th or 6th semester

Classes and lectures:

- Human-Computer-Interaction (lecture, 2 SWS)
- Human-Computer-Interaction (exercise, 1 SWS)

Workload:

- 55 Hours private studies
- 45 Hours in-classroom work
- 20 Hours exam preparation

Contents of teaching:

- Introduction and overview of the topic area
- Norms and legal foundations
- Human information processing and processes of actions
- Models for human-computer systems and interactive media
- Input/Output devices and interaction technologies
- User-centered development process and special groups of users
- Usability Engineering
- System paradigms and corresponding system examples
- Evaluation and impact analyzes
- Innovative concepts and systems

Qualification-goals/Competencies:

- The students know the principles and methods of the context-, task- and user-centered development of interactive systems.
- They have basic knowledge about human information processing and can introduce it into the design process.
- They know the basic models of interactive systems und can apply them for their analysis and evaluation.
- They have the ability to analyze and review interative systems based on criteria.

Grading through:

- written exam

Responsible for this module:

- Prof. Dr. phil. André Calero Valdez

Teacher:

- Institute for Multimedia and Interactive Systems
- Prof. Dr. phil. André Calero Valdez

Literature:

- M. Dahm: Grundlagen der Mensch-Computer-Interaktion - Pearson Studium, 2006
- J.A. Jacko: The Human-Computer Interaction Handbook - CRC Press, 2012

Language:

- offered only in German

Notes:

Prerequisites for attending the module:
- None

Prerequisites for the exam:
- Successful completion of homework assignments as stated in the beginning of the course

Exam(s):
- CS3010-L1 Mensch-Computer-Interaktion, Klausur, 90min, 100% der Modulnote

PY4890-KP04, PY4890 - Neuroanatomy (Neuroanat)

Duration:	Turnus of offer:	Credit points:	Max. group size:
1 Semester	each winter semester	4	10

Course of study, specific field and term:

- Master Psychology - Clinical Psychology and Psychotherapy 2027 (optional suject), medicine, Arbitrary semester
- Master Psychology - Clinical Psychology and Psychotherapy 2022 (optional subject), medicine, Arbitrary semester
- Master Psychology 2016 (optional subject), psychology, 3rd semester at the earliest
- Master psychology 2013 (optional subject), psychology, 1st or 3rd semester
- Master Psychology - Cognitive Systems 2022 (optional suject), psychology, Arbitrary semester
- Master Psychology - Cognitive Systems 2027 (optional suject), psychology, Arbitrary semester

Classes and lectures:

- Neuroanatomy (lecture, 1 SWS)
- Neuroanatomy (practical course, 1 SWS)

Workload:

- 90 Hours private studies
- 30 Hours in-classroom work

Contents of teaching:

- Basic introduction to the human development and structural anatomy of the central, peripheral and autonomic nervous system and sense organs; Knowledge and understanding of the main functional systems of the brain
- Modern methods of structural and functional neuroimaging
- Distinct and common neurological disorders
- During practical sessions, basic topics like vascular supply, ventricles, cranial nerves, basal ganglia, cerebellum and brainstem are analyzed and dissected

Qualification-goals/Competencies:

- Acquiring basic skills in neuroanatomy and neuroimaging
- Understanding physiology and pathophysiology by macroscopic dissection of human brains

Grading through:

- B-Certificate (not graded)

Responsible for this module:

- Prof. Dr. med. Peter König

Teacher:

- Institute of Anatomy
- Prof. Dr. med. Peter König

Language:

- offered only in German

Notes:

Admission requirements for taking the module:
- None

Admission requirements for participation in module examination(s):
- Participation in all course days on dissection is compulsory as coursework.

Module examination(s):
- PY4890-L1: Neuroanatomy, full participation, 100% of the module grade

Award of credit points and grading:

PY5500-KP30, PY5500 - Master Thesis Psychology (MasterArb)

Duration:	Turnus of offer:	Credit points:
1 Semester	each semester	30

Course of study, specific field and term:

- Master Psychology - Cognitive Systems 2027 (compulsory), psychology, 3rd semester
- Master Psychology - Clinical Psychology and Psychotherapy 2022 (compulsory), psychology, 4th semester
- Master psychology 2013 (compulsory), psychology, 4th semester
- Master Psychology 2016 (compulsory), psychology, 4th semester
- Master Psychology - Cognitive Systems 2022 (compulsory), psychology, 4th semester
- Master Psychology - Clinical Psychology and Psychotherapy 2027 (compulsory), psychology, 3rd and 4th semester

Classes and lectures:

- Oberseminar (, 1 SWS)
- Master Thesis (supervised self studies, 1 SWS)

Workload:

- 900 Hours work on an individual topic (research and development) and written elaboration

Contents of teaching:

- The ability to deal with a selected topic in psychology. The format can be experimental work or a review.
- The state of the work will be presented in the colloquium

Qualification-goals/Competencies:

- the ability to write a scientific work on the selected topic in psychology.
- the ability to apply psychological methods and to present the scientific work in written form
- the ability to plan, perform and analyze psychological investigation
- the ability to present a scientific work in verbal and written form within given time

Grading through:

- Thesis according to PVO

Responsible for this module:

- Prof. Dr. rer. nat. Nico Bunzeck

Teacher:

- Department of Psychology
- Clinic for psychosomatics and psychotherapy
- Clinic of Psychiatry and Psychotherapy
- Department of Neurology
- Alle prüfungsberechtigten Dozentinnen/Dozenten des Studienganges

Language:

- thesis can be written in German or English

Notes:

Admission requirements for taking the module:
- see SGO

Admission requirements for participation in module examination(s):
- Part of the MSc thesis is a max. 20-minute presentation as part of the advanced seminar for the Master's thesis (PY5500). In terms of content, you present the theoretical background, hypotheses and methods - if already available, you can also present the results and discussion. The seminar takes place exclusively during the lecture period - usually weekly, if lectures are registered.

Module examination(s):
- PY5500-L1: Master's thesis, written paper + colloquium, 60min, 100% of the module grade

The advanced seminar may be attended from the 1st semester and should be completed at the latest with the colloquium for the Master's thesis. In addition to the above-mentioned presentation on your own MSc thesis, this includes participation in at least 4 further courses, i.e. a total of 5 dates.

(Proportion of Institute of Psychology I to Oberseminar is 100%)

The Oberseminar may be attended from the 1st semester and should be completed at the latest with the colloquium for the Master's thesis. In addition to the above-mentioned presentation on the student's own MSc thesis, this includes participation in at least 4 other events, i.e. a total of 5 dates.

(Proportion of Institute of Psychology I in Oberseminar is 100%).

For SGO from 2027 onwards, for the Master's program in Psychology - Clinical Psychology and Psychotherapy, the Master's thesis can be started as early as the third semester.

CS4295-KP04 - Deep Learning (DEEPL)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master Computer Science 2019 (optional subject), Elective, Arbitrary semester
- Master Psychology 2016 (optional subject), Elective, Arbitrary semester
- Master Biophysics 2023 (optional subject), Elective, Arbitrary semester
- Master Media Informatics 2020 (optional subject), Elective, Arbitrary semester
- Master MES 2020 (optional subject), Elective, Arbitrary semester
- Master Entrepreneurship in Digital Technologies 2020 (optional subject), specific, Arbitrary semester
- Master Psychology - Cognitive Systems 2027 (optional subject), psychology, Arbitrary semester
- Master Psychology - Cognitive Systems 2022 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- CS4295-V: Deep Learning (lecture, 2 SWS)
- CS4295-Ü: Deep Learning (exercise, 2 SWS)

Workload:

- 75 Hours private studies
- 45 Hours in-classroom work

Contents of teaching:

- Foundations and Deep Learning Basics (Learning Paradigms, Classification and Regression, Underfitting and Overfitting)
- Shallow Neural Networks (Basic Neuron Model, Multilayer Perceptions, Backpropagation, Computational Graphs, Universal Approximation Theorem, No-Free Lunch Theorems, Inductive Biases)
- Optimization (Stochastic Gradient Descent, Momentum Variants, Adaptive Optimizer)
- Convolutional Neural Networks (1D Convolution, 2D Convolution, 3D Convolution, ReLUs and Variants, Down and Up Sampling Techniques, Transposed Convolution)
- Regularization (Early Stopping, L1 and L2 Regularization, Label Smoothing, Dropout Strategies, Batch Normalization)
- Very Deep Networks (Highway Networks, Residual Blocks, ResNet Variants, DenseNets)
- Dimensionality Reduction (PCA, t-SNE, UMAP, Autoencoder)
- Generative Neural Networks (Variational Autoencoder, Generative Adversarial Networks, Diffusion Models)
- Graph Neural Networks (Graph Convolutional Networks, Graph Attention Networks)
- Fooling Deep Neural Networks (Adversarial Attacks, White Box and Black Box Attacks, One-Pixel Attacks)
- Physics-Aware Deep Learning (Physical Knowledge as Inductive Bias, PINN, PhyDNet, Neural ODE, FINN)

Qualification-goals/Competencies:

- Students get a fundamental understanding deep learning basics such as backpropagation, computational graphs, and auto-differentiation
- Students understand the implications of inductive biases
- Students get a comprehensive understanding of most relevant deep learning approaches
- Students learn to analyze the challenges in deep learning tasks and to identify well-suited approaches to solve them
- Students will understand the pros and cons of various deep learning models
- Students know how to analyze the models and results, to improve the model parameters, and to interpret the model predictions and their relevance

Grading through:

- Written or oral exam as announced by the examiner

Responsible for this module:

- Prof. Dr. Sebastian Otte

Teacher:

- Institute for Robotics and Cognitive Systems
- MitarbeiterInnen des Instituts
- Prof. Dr. Sebastian Otte

Literature:

- Goodfellow, I., Bengio, Y., & Courville, A. (2016): Deep Learning - MIT Press. ISBN 978-0262035613
- Prince, S. J. D. (2023): Understanding Deep Learning - The MIT Press. ISBN 978-0262048644

- Deisenroth, M. P., Faisal, A. A., & Ong, C. S. (2020): Mathematics for Machine Learning - Cambridge University Press, 2020. ISBN 978-1108470049
- Bishop, C. M. (2006): Pattern Recognition and Machine Learning - Springer. ISBN 978-0387310732
- Recent publications on the related topics:

Language:

- offered only in English

Notes:

Admission requirements for taking the module:
- None

Admission requirements for participation in module examination(s):
- Successful completion of exercise assignments as specified at the beginning of the semester

Module Exam(s):
- CS4295-L1: Deep Learning, exam, 90 min

According to the decision of the examination board of computer science of 19.8.2024 this module can be chosen by students Master Computer Science SGO from 2019 in the area of 5th elective.

CS4575-KP04 - Sequence Learning (SEQL)

Duration:	Turnus of offer:	Credit points:
1 Semester	every summer semester	4

Course of study, specific field and term:

- Master Computer Science 2019 (optional subject), Elective, Arbitrary semester
- Master Medical Informatics 2019 (optional subject), Medical Data Science / Artificial Intelligence, 1st or 2nd semester
- Master Psychology 2016 (optional subject), Elective, Arbitrary semester
- Master Biophysics 2023 (optional subject), Elective, Arbitrary semester
- Master Media Informatics 2020 (optional subject), Elective, Arbitrary semester
- Master MES 2020 (optional subject), Elective, Arbitrary semester
- Master Entrepreneurship in Digital Technologies 2020 (optional subject), specific, Arbitrary semester
- Master Psychology - Cognitive Systems 2022 (optional subject), psychology, Arbitrary semester
- Master Psychology - Cognitive Systems 2027 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- CS4575-V: Sequence Learning (lecture, 2 SWS)
- CS4575-Ü: Sequence Learning (exercise, 1 SWS)

Workload:

- 75 Hours private studies
- 45 Hours in-classroom work

Contents of teaching:

- Introduction to Sequence Learning (Formalisms, Metrics, Recapitulation of Relevant Machine Learning Techniques)
- Recurrent Neural Networks (Simple RNN Models, Backpropagation Through Time)
- Gated Recurrent Networks (Vanishing Gradient Problem in RNNs, Long Short-Term Memories, Gated Recurrent Units, Stacked RNNs)
- Important Techniques for RNNs (Teacher Forcing, Scheduled Sampling, h-Detach)
- Bidirectional RNNs and related concepts
- Hierarchical RNNs and Learning on Multiple Time Scales
- Online Learning and Learning without BPTT (Real-Time Recurrent Learning, e-Prop, Forward Propagation Through Time)
- Reservoir Computing (Echo State Networks, Deep ESNs)
- Spiking Neural Networks (Spiking Neuron Models, Learning in SNNs, Neuromorphic Computing, Recurrent SNNs)
- Temporal Convolution Networks (Causal Convolution, Temporal Dilation, TCN-ResNets)
- Introduction to Transformers (Sequence-to-Sequence Learning, Basics on Attention, Self-Attention and the Query-Key-Value Principle, Large Language Models)
- State Space Models (Structured State Space Sequence Models, Mamba)

Qualification-goals/Competencies:

- Students get a comprehensive understanding of most relevant sequence learning approaches
- Students learn to analyze the challenges in sequence learning tasks and to identify well-suited approaches to solve them
- Students will understand the pros and cons of various sequence learning models
- Students can implement common and custom sequence learning models for time series analysis, classification, and forecasting
- Students know how to analyze the models and results, to improve the model parameters, and to interpret the model predictions and their relevance

Grading through:

- Written or oral exam as announced by the examiner

Responsible for this module:

- Prof. Dr. Sebastian Otte

Teacher:

- Institute for Robotics and Cognitive Systems
- MitarbeiterInnen des Instituts
- Prof. Dr. Sebastian Otte

Literature:

- Goodfellow, I., Bengio, Y., & Courville, A. (2016): Deep Learning - MIT Press. ISBN 978-0262035613
- Prince, S. J. D. (2023): Understanding Deep Learning - The MIT Press. ISBN 978-0262048644
- Deisenroth, M. P., Faisal, A. A., & Ong, C. S. (2020): Mathematics for Machine Learning - Cambridge University Press, 2020. ISBN

978-1108470049
- Nakajima, K., & Fischer, I. (2021): Reservoir Computing: Theory, Physical Implementations, and Applications - Cambridge University Press, 2020. ISBN 978-1108470049
- Sun, R., & Giles, C. (2001): Sequence Learning: Paradigms, Algorithms, and Applications - Springer Berlin Heidelberg. ISBN 978-3540415978
- Bishop, C. M. (2006): Pattern Recognition and Machine Learning - Springer. ISBN 978-0387310732
- Recent publications on the related topics:

Language:

- offered only in English

Notes:

Admission requirements for taking the module:
- None, but it is recommended to complete the course Deep Learning (CS4295-KP04) first

Admission requirements for participation in module examination(s):
- Successful completion of exercise assignments as specified at the beginning of the semester

Module Exam(s):
- CS4575-L1: Sequence Learning, exam, 90 min

According to the decision of the examination board of computer science of 19.8.2024 this module can be chosen by students Master Computer Science SGO from 2019 in the area of 5th elective.

EC4001-KP04, EC4001 - General Business Administration (ABWL)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master Computer Science 2019 (optional subject), interdisciplinary competence, Arbitrary semester
- Master Psychology 2016 (optional subject), interdisciplinary competence, Arbitrary semester
- Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester
- Master psychology 2013 (optional subject), interdisciplinary competence, Arbitrary semester
- Master Media Informatics 2014 (optional subject), interdisciplinary competence, Arbitrary semester
- Master Computer Science 2014 (optional subject), interdisciplinary competence, Arbitrary semester

Classes and lectures:

- General Business Administration (lecture, 2 SWS)
- General Business Administration (exercise, 1 SWS)

Workload:

- 60 Hours private studies
- 45 Hours in-classroom work
- 15 Hours exam preparation

Contents of teaching:

- Theories in business administration
- Organisational forms
- Legal forms
- Accounting basics
- Theories on leaderhip and motivation

Qualification-goals/Competencies:

- The students get an important and in-depth overview of the single parts of business administration.
- Within this lecture, the students are empowered to identify and classify the different theoretical areas of business administration.
- Furthermore, students will be able to evaluate the different approaches and apply them to specific situations.

Grading through:

- portfolio exam

Responsible for this module:

- Prof. Dr. Christian Scheiner

Teacher:

- Institute for Entrepreneurship and Business Development
- Dr. Stefan Becker

Literature:

- Wöhe: Einführung in die Allgemeine Betriebswirtschaftslehre - Vahlen-Verlag, 24. Auflage, 2010
- Hungenberg, Wulf: Grundlagen der Unternehmensführung - Gabler-Verlag, 4. Auflage, 2011

Language:

- offered only in German

Notes:

Prerequisites for attending the module:
- none

Prerequisites for participation in module exam(s):
- none
- Prerequisites for admission to the (written) examination may be scheduled at the beginning of the semester. When prerequisites are defined, they should be completed and positively evaluated before the initial (written) examination.

Module exam(s):
- EC4001-L1: General Business Administration, (online) tests, 100 % of module grade

Students for whom this course is a compulsory module have priority.

Registration takes place at the beginning of the semester via Moodle. Further registration and exam-related questions will be clarified during the first lectures.

(Is equal to EC4001 T-KP04)

EC4004-KP04, EC4004 - Strategic Management (StratMng)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), interdisciplinary competence, Arbitrary semester
- Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester
- Master psychology 2013 (optional subject), interdisciplinary competence, Arbitrary semester

Classes and lectures:

- Strategic Management (lecture, 2 SWS)
- Strategic Management (exercise, 1 SWS)

Workload:

- 60 Hours private studies
- 45 Hours in-classroom work
- 15 Hours exam preparation

Contents of teaching:

- Coroporate goals and strategies
- Marketing Strategies
- Enterprise Controlling
- Internationalization strategies

Qualification-goals/Competencies:

- Within the single teaching areas the students will be able to use the teaching content and to analyze and evaluate business cases independently.
- They are empowered to use and apply the different strategic management tools and approaches.
- Moreover, the team work within the lecture and exercise enables the students to formulate and define common goals and solution strategies with regard to the tasks given.

Grading through:

- portfolio exam

Responsible for this module:

- Prof. Dr. Christian Scheiner

Teacher:

- Institute for Entrepreneurship and Business Development
- Simon Behrendt

Literature:

- Hungenberg, Wulf: Grundlagen der Unternehmensführung - Gabler-Verlag, 4. Auflage, 2011
- Hungenberg: Strategisches Management in Unternehmen - Gabler-Verlag, 8. Auflage 2014
- Schierenbeck: Grundzüge der Betriebswirtschaftslehre - Oldenbourg-Verlag, 17. Auflage, 2008
- Schäfer-Kunz Vahs: Einführung in die Betriebswirtschaftslehre - Schäffer-Poeschel-Verlag, 5. Auflage, 2007
- Wöhe: Einführung in die Allgemeine Betriebswirtschaftslehre - Vahlen-Verlag, 24. Auflage, 2010

Language:

- offered only in German

Notes:

Prerequisites for attending the module:
- none

Prerequisites for participation in module exam(s):
- none
- Prerequisites for admission to the (written) examination may be scheduled at the beginning of the semester. When prerequisites are defined, they should be completed and positively evaluated before the initial (written) examination.

Module exam(s):
- EC4004-L1: Strategic Management, portfolio exam, 100 % of module grade

The portfolio exam consists of the following:
-Written assignment, 40 %
-Exam, 60 %

The commercial rounding is used to determine the overall grade.

Students for whom this course is a compulsory module have priority.

Registration takes place at the beginning of the semester via Moodle. Further registration and exam-related questions will be clarified during the first lectures.

(Is equal to EC4004 T-KP04)

PY2908-KP04, PY2908 - Nutrition psychology (ErnaehrPsy)

Duration:	Turnus of offer:	Credit points:
1 Semester	every second semester	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester
- Master psychology 2013 (optional subject), psychology, Arbitrary semester
- Bachelor Psychology 2013 (optional subject), psychology, 3rd semester at the earliest
- Bachelor Psychology 2016 (optional subject), psychology, 3rd semester at the earliest

Classes and lectures:

- Nutrition psychology (seminar, 2 SWS)

Workload:

- 90 Hours private studies and exercises
- 30 Hours in-classroom work

Contents of teaching:

- Theoretical principles of eating behavior
- Theoretical principles of pathological eating behavior
- Experimental research on the subject of food choice
- Decision-making theories and their link to eating behavior

Qualification-goals/Competencies:

- The students acquire a good theoretical and experimental knowledge regarding the foundations of eating behavior
- The students extend their knowledge regarding pathological eating behavior, as in bulimia, obesity and type 2 diabetes
- Training of the ability to discuss the subject in its scientific and socio-critical context
- Students will gain access to results of latest experimental research concerning eating behavior

Grading through:

- Group work

Responsible for this module:

- Prof. Dr. phil. So Young Park

Teacher:

- Department of Psychology
- Prof. Dr. phil. So Young Park

Literature:

- Diverse: up to date scientific papers

Language:

- offered only in German

Notes:

The module examination is considered passing if it was graded as at least sufficient.

PY2922-KP04 - Progressive muscle relaxation: train-the-trainer (PMR)

Duration:	Turnus of offer:	Credit points:	Max. group size:
1 Semester	each summer semester	4	11

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester
- Bachelor Psychology 2016 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- skills training (, 3 SWS)

Workload:

- 90 Hours private studies
- 30 Hours in-classroom exercises

Contents of teaching:

- A prerequisite for reducing stress in stressful situations is the ability to relax, which can be anchored in the body through regular training. One possibility is progressive muscle relaxation (PMR) according to Edmund Jacobson. This is a procedure in which a state of deep relaxation of the entire body is achieved through the deliberate and conscious relaxation of certain muscle groups. The aim of the procedure is to reduce muscle tension below the normal level due to improved body perception. In addition, relaxation of the musculature should also reduce other signs of physical restlessness or arousal, such as palpitations, sweating or tremors. In addition, muscular tensions can be detected and loosened, thus reducing pain.

Qualification-goals/Competencies:

- Students learn the independent application of progressive muscle relaxation.
- The students qualify themselves to guide the PMR exercise towards third parties.

Grading through:

- active participation in the exercises

Responsible for this module:

- Juliana Wiechert, Dipl.-Psych.

Teacher:

-
- Juliana Wiechert, Dipl.-Psych.

Literature:

- :

Language:

- offered only in German

PY2926-KP04 - Advanced Methods in Stimulus programming using Psychtoolbox (PTB) with Matlab (StimPTB2)

Duration:	Turnus of offer:	Credit points:	Max. group size:
1 Semester	each summer semester	4	20

Course of study, specific field and term:

- Master Psychology - Cognitive Systems 2027 (optional subject), psychology, Arbitrary semester
- Master Auditory Technology 2022 (optional subject), psychology, 2nd semester
- Master Psychology - Cognitive Systems 2022 (optional subject), psychology, Arbitrary semester
- Master Psychology 2016 (optional subject), psychology, Arbitrary semester
- Bachelor Psychology 2016 (optional subject), psychology, Arbitrary semester
- Bachelor Psychology 2020 (optional subject), psychology, Arbitrary semester
- Bachelor Psychology 2027 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Advanced Methods in Stimulus programming using Psychtoolbox (PTB) with Matlab (seminar, 2 SWS)

Workload:

- 90 Hours private studies
- 30 Hours in-classroom work

Contents of teaching:

- Refresh and extension of Matlab functions, essential for Psychtoolbox
- Optimization of Psychtoolbox configuration
- Advanced text usage (continuous text, text scrolling, etc.)
- Sound generation and accurate timing of playback
- Usage of response devices (e.g. Joystick, response buttons)
- Interaction with external systems (EEG, Eyetracking, MRI)
- Graphical user interface template
- Data management in experiments

Qualification-goals/Competencies:

- Extension of knowledge with Psychtoolbox using Matlab®
- Effective handling of stimulus sequences
- Operationalisation of research questions
- The students learn to create experiments so that the following evaluation steps (statistics) can be carried out optimally

Grading through:

- Exercises
- B-Certificate (not graded)

Responsible for this module:

- Dr. rer. hum. biol. Andreas Sprenger

Teacher:

- Department of Neurology
- Dr. rer. hum. biol. Andreas Sprenger
- Prof. Dr. rer. nat. Marcus Heldmann

Literature:

- Internet Documentation Psychtoobox: https://docs.psychtoolbox.org
- Internet Matlab Documentation: http://de.mathworks.com/help/matlab

Language:

- Will be offered using an audience-oriented mixture of German and English

Notes:

Admission requirements for taking the module:
- Previous knowledge of Matlab required, e.g. for Bachelor students PY2917-KP04, for Master students PY4880-KP04. Attendance of the module PY2919-KP04 is desirable.
Alternatively, Matlab introductory videos and tutorials can be worked through independently

(https://de.mathworks.com/support/learn-with-matlab-tutorials.html). The Matlab Onramp course shows the most important commands and ways of working with Matlab. All tutorials on Mathworks.com are free of charge for students and employees of the University of Lübeck; a Mathworks account is required, which can be obtained via uni-luebeck.de or the student.uni-luebeck.de email address. Attendance of module 2919 (PTB1) is desirable. For

PY4011-KP04 - Statistical Cognition - Recognizing and avoiding common statistical traps (StatDenke)

Duration:	Turnus of offer:	Credit points:	Max. group size:
1 Semester	irregularly	4	20

Course of study, specific field and term:

- Bachelor Psychology 2027 (optional subject), psychology, Arbitrary semester
- Bachelor Psychology 2020 (optional subject), psychology, Arbitrary semester
- Bachelor Psychology 2016 (optional subject), psychology, Arbitrary semester
- Master Psychology 2016 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- PY4011-W: Statistical Cognition Recognizing and avoiding common statistical traps (seminar, 2 SWS)

Workload:

- 90 Hours private studies
- 30 Hours in-classroom work

Contents of teaching:

- Common errors in the statistical analysis of empirical data
- Logical fallacies in the interpretation of research findings
- Deficiencies in human patterns of thought
- Discrepancies of intuitive and formal logic
- Simple data simulation in MatLab

Qualification-goals/Competencies:

- Recognize errors and logical fallacies in research results
- Acquire skills to adapt experimental design and statistical analyses in order to avoid common fallacies
- Acquire skills to implement data simulations with the goal to recognize and quantify implications of common fallacies
- Critical reflection of logical conclusions and of statistical analysis techniques

Grading through:

- written homework
- B-Certificate (not graded)

Responsible for this module:

- Prof. Dr. rer. nat. Jonas Obleser

Teacher:

- Department of Psychology
- PD Dr. phil. Sarah Tune

Literature:

- Beck-Bornholdt & Dubben: Der Hund, der Eier legt. Erkennen von Fehlinformationen durch Querdenken - 7. Auflage, 2005. Rowohlt, Hamburg
- Kahnemann: Thinking, Fast and Slow - 2011. Penguin books, United Kingdom

Language:

- offered only in German

Notes:

Admission requirements for taking the module:
- None
Admission requirements for participation in module examination(s):
- None

Module examination(s):
- PY4011-L1: Statistical thinking - recognizing and avoiding pitfalls in statistical data analysis, term paper, submission, 100% of the module grade

Note on term paper: Each student writes a one-off in-depth term paper (2000-3000 words) based on the topic of a seminar session.

Students receive an ungraded certificate.

PY4210-KP04, PY4210 - Engineering Psychology (IngPsy)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester
- Bachelor Psychology 2016 (optional subject), psychology, Arbitrary semester
- Master MES 2014 (optional subject), no specific field, 1st or 2nd semester
- Bachelor MES 2014 (optional subject), no specific field, Arbitrary semester
- Master Media Informatics 2014 (compulsory), psychology, 1st semester

Classes and lectures:

- Engineering Psychology (lecture, 2 SWS)
- Engineering Psychology (seminar, 1 SWS)

Workload:

- 75 Hours in-classroom work
- 45 Hours private studies and exercises

Contents of teaching:

- Fundamentals of engineering psychology & human-machine systems
- Automation & Artificial Intelligence
- Situationsbewusstsein & Mentale Modelle
- Situationsbewusstsein & Mentale Modelle
- Arbeitsbelastung und Stress
- Decide & act
- Multitasking und Ressourcenmanagement

Qualification-goals/Competencies:

- Students understand psychological fundamentals for the design and evaluation of man-machine-systems (MMS).
- Students can integrate their own work on MMS in a historical and sociological perspective.
- They can can plan, coordinate and conduct usability studies and work effectively in interdisciplinary teams with engineering psychologists, ergonomics and usability specialists and designers.

Grading through:

- portfolio exam
- written exam

Responsible for this module:

- Prof. Dr. rer. nat. Thomas Franke

Teacher:

- Institute for Multimedia and Interactive Systems
- Prof. Dr. rer. nat. Thomas Franke
- Dr. rer. hum. biol. Andreas Sprenger

Literature:

- B. Zimolong & U. Konradt: Ingenieurpsychologie, Enzyklopädie der Psychologie, Wirtschafts-, Organisations- und Arbeitspsychologie - Serie 3 / Bd. 2 Ingenieurpsychologie, Hogrefe-Verlag: Göttingen, 1990 / 2006
- W. Hacker: Allgemeine Arbeitspsychologie - Hogrefe Verlag, 2014
- P. Badke-Schaub, G. Hofinger & K. Lauche: Human Factors, Psychologie des sicheren Handelns - Springer, 2008
- Wickens, C., Helton, W. S., Hollands, J., Banbury, S. (2021).: Engineering Psychology and Human Performance - New York: Routledge
- Proctor, R., & van Zandt, T. (2018): Human Factors in Simple and Complex Systems - Boca Raton: CRC Press
- Salvendy, G. (2021): Handbook of Human Factors and Ergonomics - New York: Wiley

Language:

- offered only in German

Notes:

Admission requirements for taking the module:
- None

Admission requirements for participation in module examination(s):
- Examination prerequisites can be defined at the beginning of the semester. If prerequisites are defined, they must have been completed and positively assessed before the first examination.

Module examination(s):
- PY4210-L1: Engineering Psychology, written exam, 60 min, 100% of the module grade

PY4231-KP04 - Artificial Intelligence in health sciences (WPAIHS)

Duration:	Turnus of offer:	Credit points:	Max. group size:
1 Semester	on request	4	20

Course of study, specific field and term:

- Master Psychology - Clinical Psychology and Psychotherapy 2022 (optional subject), psychology, Arbitrary semester
- Master Psychology - Cognitive Systems 2022 (optional subject), psychology, Arbitrary semester
- Master Psychology 2016 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- PY4231 Artificial Intelligence in health sciences (seminar, 2 SWS)

Workload:

- 90 Hours private studies
- 30 Hours in-classroom work

Contents of teaching:

- Introduction into the basic principles and background of mathematical modelling and Artificial Intelligence.
- Advances in analyzing real-world data (from text to brain)
- Application in the research of healthy subjects and mental disorders (Stress, Psychosis and Depression)

Qualification-goals/Competencies:

- Students gain in-depth insights into the principles and methods of Artificial Intelligence.
- Students can understand and evaluate studies that make use of the learned computational methods
- Students understand the relevance of computational modeling for the research on mental disorders

Grading through:

- B-Certificate (not graded)
- active participation in the exercises

Responsible for this module:

- Prof. Dr. rer. nat., Dipl.-Psych. Frieder Paulus

Teacher:

- Clinic of Psychiatry and Psychotherapy
- Dr.-Ing. Alexandra Korda

Literature:

- Varun H Buch, Irfan Ahmed and Mahiben Maruthappu: Artificial intelligence in medicine: current trends and future possibilities - British Journal of General Practice 2018; 68 (668): 143-144. DOI

Language:

- offered only in English

Notes:

None

Prerequisites for participation in module examination(s):
- None

Exam:
- None

PY4720-KP04 - Trends in Personality Psychology (WPPersoe)

Duration:	Turnus of offer:	Credit points:
1 Semester	each summer semester	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Trends in Personality Psychology (seminar with practical exercises, 2 SWS)

Workload:

- 90 Hours private studies and exercises
- 30 Hours in-classroom work

Contents of teaching:

- Aktuelle, interessante und/oder wichtige Konzepte, Theorien, Methoden und Forschungsbereiche in der Differentiellen und Persönlichkeitspsychologie (breit gefasst)
- Diskussionen über Theorien, Modelle, Methoden, Ergebnisse und Anwendungen
- Verschiedene Inhalte möglich (je nach Interessensbereiche)

Qualification-goals/Competencies:

- Die Studierenden kennen aktuelle, interessante und/oder wichtige Fachliteratur in der Differentiellen und Persönlichkeitspsychologie
- Sie vertiefen ausgewählte Forschungsgebiete und verstehen Gemeinsamkeiten und Unterschiede zwischen ihnen
- Sie können verschiedene Informationen miteinander kontrastieren und verknüpfen
- Sie erwerben Wissen, dass an andere Grundlagen- und Anwendungsdisziplinen anknüpfen kann
- Sie sind in der Lage, aktuelle Fachartikel und Buchkapitel auf Englisch zu lesen, zu verarbeiten und kritisch abwägend zu diskutieren und zu bewerten
- Sie können komplexe Sachverhalte sicher und gut aufbereitet präsentieren

Grading through:

- presentation

Responsible for this module:

- Prof. Dr. rer. nat. habil John Rauthmann

Teacher:

- Department of Psychology
- Prof. Dr. rer. nat. habil John Rauthmann

Literature:

- Div: Verschiedene Fachartikel auf Englisch (wechselnd)

Language:

- German and English skills required

PY4800-KP04, PY4800 - Knowledge creates visibility: Presenting scientifically professional (WissPraes)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester
- Master psychology 2013 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Wissen schafft Präsenz (seminar, 2 SWS)

Workload:

- 90 Hours private studies
- 30 Hours in-classroom work

Contents of teaching:

- Basic theories of recent and classical comunication models
- Critical reflection of these models, as well as practical applications in form of discussions and presentations
- Confident manner during scientific discussions and presentations

Qualification-goals/Competencies:

- Students acquire an in-depth knowledge about different communication theories and can apply this knowledge in discussions and presentations
- Based on intense evaluations students can improve their practical skills
- Students are able to structure scientific information and to communicate these

Grading through:

- Marked presentation with written report

Responsible for this module:

- Prof. Dr. phil. So Young Park

Teacher:

- Department of Psychology
- Ph.d. Apoorva Madipakkam

Literature:

- Barbara Hey: Präsentieren in Wissenschaft und Forschung - Springer 2011
- Diverse: Actual scientific papers

Language:

- offered only in German

Notes:

The module examination is considered passing if it was graded as at least sufficient.

PY4870-KP04, PY4870 - Decision Neuroscience (NeuroEnt)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester
- Master psychology 2013 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Decision Neuroscience (seminar, 2 SWS)

Workload:

- 40 Hours private studies
- 30 Hours written report
- 30 Hours in-classroom work
- 20 Hours designing a poster

Contents of teaching:

- Recent theories on different aspects of decision making- Simple choices- Decisions under risk- Decisions in a social context
- Extension of neuroscientific methods (TMS, fMRI, EEG, MEG)
- Recent neuroscientific findings about decision making

Qualification-goals/Competencies:

- Students will acquire an in depth knowledge about theories and models of different aspects of decision making
- Students have the opportunity to get an interdisciplinary view of the recent state of knowledge of decision making
- Student will be able to deal with the different terms of each discipline
- Students will be able to think critically about recent neuroscientific results and to link those with the different underlying theoretical models

Grading through:

- B-Certificate (not graded)

Responsible for this module:

- Prof. Dr. phil. So Young Park

Teacher:

- Department of Psychology
- Prof. Dr. phil. So Young Park
- M.Sc. Gabriele Bellucci

Literature:

- Glimcher, Camerer, Fehr & Poldrack: Neuroeconomics: Decision Making and the Brain, 2nd edition - Academic Press, 2013
- Aktuelle wissenschaftliche Artikel:

Language:

- offered only in German

Notes:

The module examination is considered passing if it was graded as at least sufficient.

PY4880-KP04 - Data analysis and scientific programming using Matlab (FoDaMatlab)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Data analysis and scientific programming using Matlab (seminar, 2 SWS)

Workload:

- 68 Hours private studies
- 32 Hours in-classroom work

Contents of teaching:

- Students acquire basic knowledge of and in Matlab and comparable data analysis environments
- Students get accustomed to handling scientific data and develop own strategies of data analysis

Qualification-goals/Competencies:

- Learning to interact with a computer algebra system like Matlab
- Methods and approaches in using Matlab for various kinds of data analysis in research

Grading through:

- programming exercises

Responsible for this module:

- Prof. Dr. rer. nat. Jonas Obleser

Teacher:

- Department of Psychology
- Dr. rer. nat. Jens Kreitewolf
- Dr. rer. nat. Mohsen Alavash

Literature:

- Internet: Matlab-Documentation - http://de.mathworks.com/help/matlab/

Language:

- German and English skills required

Notes:

The module examination is considered passing if it was graded as at least sufficient.

PY4891-KP04, PY4891 - Traffic psychology (Verkehrsps)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester
- Master psychology 2013 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Traffic psychology (seminar with practical exercises, 2 SWS)

Workload:

- 80 Hours private studies
- 28 Hours in-classroom work
- 2 Hours excursion

Contents of teaching:

- Choice of vehicle for moving (bike, car, bus, ship,)
- Mobility: the choice of vehicle for moving (bike, car, bus, ship,) (work psychology)
- Age and traffic: challenges on traffic systems for all parts in life (life span psychology)
- Deviating behavior (clinical psychology and differential psychology):a) Aggression,b) Risk cognition and sensation seeking
- Health, diseases and traffic (clinical psychology and neuropsychology):a) Alcohol and drugs,b) Psychiatric diseases (e.g. psychosis),c) Neuro-degenerative diseases (e.g. Morbus Parkinson)
- Diagnostics of suitability for participation in traffic (Neuropsychology)
- Tätigkeiten im Berufsfeld Verkehr, z.B. im Schiffsverkehr (Betriebspsychologie, Marinepsychologie)
- Traffic pedagogics (not only for children!)
- Human-machine interaction (work and environmental psychology
- There will be an excursion (medical-psychological assessment center) as well as reports by external experts in most of the sessions.

Qualification-goals/Competencies:

- Knowledge about psychological components in diverse areas of mobility
- Application of psychological theories on the interdisciplinary context of traffic
- Critical discussion of topics between empirical research, basic theories and practical application of traffic psychology topics

Grading through:

- B-Certificate (not graded)

Responsible for this module:

- Dr. rer. hum. biol. Andreas Sprenger

Teacher:

- Department of Neurology
- Dr. rer. hum. biol. Andreas Sprenger

Literature:

- Schlag, B.: Verkehrspsychologie - Pabst Science Publishers 2011
- Chaloupka-Risser et al.: Verkehrspsychologie

Language:

- offered only in German

Notes:

Prüfungsleistungen gelten als erbracht, wenn sie mit mindestens ausreichend bewertet werden. Im Rahmen des Seminars wird eine Exkursion zu einer medizinisch-psychologischen Untersuchungsstelle durchgeführt. Das Modul ist auf 20 TeilnehmerInnen beschränkt.

PY4892-KP04 - Post Trauma: Social psychology and ethics (PostTrauma)

Duration:	Turnus of offer:	Credit points:
1 Semester	each winter semester	4

Course of study, specific field and term:

- Master psychology 2013 (optional subject), psychology, Arbitrary semester
- Master Psychology 2016 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Post Trauma: Social psychology and ethics (seminar, 2 SWS)

Workload:

- 90 Hours privat studies (including essay)
- 30 Hours in-classroom work

Contents of teaching:

- This seminar looks at how families and societies deal with the past when something has happened in their past that is traumatic and therefore cannot be described or discussed, or poses obstacles for an open conversation. Descendants of victims and perpetrators of the Holocaust; situations of war, violence. How is agency hampered by trauma? How can people regain agency after a trauma? Which influence have collective traumas on ethical discourses?
- We closely look at the extensive qualitative interview study, which was led by the Israeli psychologist Dan Bar-On (1938 - 2008) on the perspectives of perpetrators and victims in three generations after the Holocaust in Germany and Israel. We elaborate and discuss ethical and social psychological interpretations of the results of this study. For this we include relevant texts about the definition of individual and collective trauma and about the phenomenological, cultural and ethical perspectives.

Qualification-goals/Competencies:

- Participants learn to know and use

Grading through:

- continuous, successful participation in course

Responsible for this module:

- Prof. Dr. phil. Christoph Rehmann-Sutter

Teacher:

- Institute for History of Medicine and Science Studies
- Prof. Dr. phil. Christoph Rehmann-Sutter

Literature:

- Dan Bar-On: Fear and Hope: Three Generations of the Holocaust - Cambridge, Massachusetts and London, England: Harvard University Press 1995.
- Dan Bar-On: The Indescribable and the Undiscussable: Reconstructing Human Discourse after Trauma - Budapest: Central European University Press 1998
- Dan Bar-On, Konrad Brendler und A. Paul Hare: Da ist etwas kaputtgegangen an den Wurzeln... Identitätsformation deutscher und israelischer Jugendlicher im Schatten des Holocaust - Frankfurt a.M.: Campus 1997
- Angela Kühner: Kollektive Traumata - Annahmen, Argumente, Konzepte. Eine Bestandesaufnahme nach dem 11. September - Berlin 2002
- Judith Herman: Die Narben der Gewalt: Traumatische Erfahrungen verstehen und überwinden - Paderborn: Junfermann, 5. Aufl. 2018
- Dan Bar-On: Die Last des Schweigens. Gespräche mit Kindern von Nazi-Tätern - Reinbek. Rowohlt 1996

Language:

- German and English skills required

Notes:

Prerequisites for attending the module:
- None

Prerequisites for the exam:
- Active participation during the practice hours

PY4893-KP04 - Psychoanalysis - science or pseudoscience (PsyAn)

Duration:	Turnus of offer:	Credit points:	Max. group size:
1 Semester	each summer semester	4	20

Course of study, specific field and term:

- Master psychology 2013 (optional subject), psychology, Arbitrary semester
- Master Psychology 2016 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Psychoanalysis - science or pseudoscience (seminar, 2 SWS)

Workload:

- 75 Hours private studies
- 25 Hours in-classroom work

Contents of teaching:

- Is psychoanalysis a science, pseudo-science or just a system of interpretation? How can psychoanalysis count as a science? The seminar will deal with Freud debates in the second half of the 20th century. Starting with original text passages from Freud s written work, we will discuss questions of scientific claims in psychoanalytical thinking as well as the specific character and limitations of psychoanalytical knowledge (Habermas, Ricoeur, Grünbaum). The seminar will offer a co-teaching format with Prof. Dr. Alfred Nordmann (Philosophy, TU Darmstadt) and students of philosophy of the University of Darmstadt.
- In this constellation of philosophy, Kulturwissenschaften (‚cultural sciences) and psychology we will discuss the scientific-theoretical and philosophical implications of psychoanalysis in an interdisciplinary dialogue. We also will focus on the debates about efficacy, efficiency and empirical verifiability in a clinical context.

Qualification-goals/Competencies:

- faculty of criticsm; theory understanding
- reflection and discoursive delivery on important texts and arguments; epistemology and theoretical foundation of psychology and psychoanalysis
- critical understanding of texts; reflection of public practice in psychological sciences

Grading through:

- essay (graded)

Responsible for this module:

- Dr. phil. Birgit Stammberger

Teacher:

- Institute for History of Medicine and Science Studies

Language:

- offered only in German

PY4894-KP04 - Workshop qualitative research (WerkQuali)

Duration:	Turnus of offer:	Credit points:	Max. group size:
1 Semester	each winter semester	4	15

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Workshop qualitative research (seminar, 2 SWS)

Workload:

- 90 Hours private studies
- 30 Hours in-classroom work

Contents of teaching:

-
-
-
-

Qualification-goals/Competencies:

-
-
-
-
-

Grading through:

- B-Certificate (not graded)

Responsible for this module:

- Prof. Dr. phil. Lisa Malich

Teacher:

- Institute for History of Medicine and Science Studies

Literature:

- :
- :
- :

Language:

- offered only in German

Notes:

Prerequisites for taking the module:
- None

Prerequisites for participation in module examination(s):

- - Presentation: Presentation of a theoretical text or own project design
- Attendance at at least 80% of the seminar dates

Exam:
- PY4894-L1: Workshop qualitative research, ungraded

PY4895-KP04 - Zwischen den Stühlen? Theorie und Geschichte tiefenpsychologisch fundierter Psychotherapie (GeschTie)

Duration:	Turnus of offer:	Credit points:
1 Semester	Currently not available	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Zwischen den Stühlen? Theorie und Geschichte tiefenpsychologisch fundierter Psychotherapie (seminar, 2 SWS)

Workload:

- 90 Hours private studies
- 30 Hours in-classroom work

Contents of teaching:

-
-
-
-
-
-

Qualification-goals/Competencies:

-
-
-
-
-

Grading through:

- presentation

Responsible for this module:

- Prof. Dr. phil. Lisa Malich

Teacher:

- Institute for History of Medicine and Science Studies
- Prof. Dr. phil. Lisa Malich

Literature:

- Jensen, U.: Die Konstitution des Selbst durch Beratung und Therapeutisierung - In S. Maasen, J., Elberfeld, P. Eitler, & M. Tändler (Eds.), Das beratene Selbst: Zur Genealogie der Therapeutisierung in den 'langen' Siebzigern (pp. 37-56). Bielefeld: Transcript.
- Müller-Wille, S., Reinhardt, C., & Sommer, M. (2017).: Wissenschaftsgeschichte und Wissensgeschichte - In M. Sommer, S. Müller-Wille, & C. Reinhardt (Eds.), Handbuch Wissenschaftsgeschichte (pp. 2-19). Berlin: Metzler/ Springer.
- Wöller, W., & Kruse, J. (2010): Was ist tiefenpsychologisch fundierte Psychotherapie? Einführung in das Verfahren - In W. Wöller & J. Kruse (Eds.), Tiefenpsychologisch fundierte Psychotherapie: Basisbuch und Praxisleitfaden (pp. 10-19). Stuttgart: Schattauer.
- Texte zur gemeinsamen Lektüre werden in der Veranstaltung bekannt gegeben.:

Language:

- offered only in German

PY5360-KP04, PY5360 - Psychology in movies (PsyFilmMA)

Duration:	Turnus of offer:	Credit points:	Max. group size:
1 Semester	each semester	4	20

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester
- Master psychology 2013 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Psychologie in movies (seminar, 2 SWS)

Workload:

- 80 Hours private studies
- 30 Hours in-classroom work

Contents of teaching:

-
-
-

Qualification-goals/Competencies:

-
-
-
-
-

Grading through:

- B-Certificate (not graded)

Responsible for this module:

- Prof. Dr. Sören Krach

Teacher:

- Department of Neurology
- Clinic of Psychiatry and Psychotherapy
- Department of Psychology

- Prof. Dr. Sören Krach
- Prof. Dr. rer. nat. Ulrike Krämer
- Maurice Cabanic

Literature:

- :

Language:

- offered only in German

PY5380-KP04 - Neuromarketing (WPNeurmark)

Duration:	Turnus of offer:	Credit points:
1 Semester	Currently not available	4

Course of study, specific field and term:

- Master Psychology 2016 (optional subject), psychology, Arbitrary semester
- Master psychology 2013 (optional subject), psychology, Arbitrary semester

Classes and lectures:

- Neuromarketing (seminar, 2 SWS)

Workload:

- 100 Hours private studies and exercises
- 20 Hours in-classroom work

Contents of teaching:

- Principles of psychological mechanisms underlying diverse marketing strategies
- Introduction to the methods investigating marketing strategies
- Basic foundations of neuromarketing

Qualification-goals/Competencies:

- Learning the basic theories in psychology and neuroscience that are related to the marketing strategies
- Understanding the interdisciplinarity of the neuromarketing by reading and discussing the standard readings in neuromarketing
- The students acquire the ability to evaluate the marketing strategies in a critical way
- Building connections between the marketing strategies and theoretical/empirical models in psychology

Grading through:

- Group work

Responsible for this module:

- Prof. Dr. phil. So Young Park

Teacher:

- Department of Psychology
- Prof. Dr. phil. So Young Park

Literature:

- Dr. Thomas Zoega Ramsoy: Introduction to Neuromarketing
- Latest scientific publications:

Language:

- offered only in German

Notes:

The module examination is considered passing if it was graded as at least sufficient.