

Degree Program and Examination Regulations for the Master's Degree Program in Cognitive Neuroscience within the Department of Education and Psychology at Freie Universität Berlin

Disclaimer: Please note that only the German versions of these documents are legally binding. This translation is intended for the convenience of the non-German-reading public and is for information purposes only.

Preamble

On the basis of Section 14.1.1.2 of Freie Universität Berlin's supplemental rules and regulations [*Teilgrundordnung (Erprobungsmodell)*] from October 1998, published in the Freie Universität bulletin No. 24/1998 (*FU-Mitteilungen*), the Department Council (*Fachbereichsrat*) of the Department of Education and Psychology at Freie Universität Berlin issued the following degree program and examination regulations for the master's degree program "Cognitive Neuroscience" within the Department of Education and Psychology on December 10, 2020.¹

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**§ 1
Scope**

(1) These regulations define the objectives, content, and structure of the master's degree program "Cognitive Neuroscience" within the Department of Education and Psychology at Freie Universität Berlin. These regulations

apply in conjunction with Freie Universität Berlin's framework regulations for degree programs and examinations as they outline the requirements and processes necessary to complete coursework and assessments toward completion of a master's degree program.

(2) The degree program is a consecutive master's degree as defined by Section 23.3.1.1a of the Berlin Higher Education Act (BerlHG) from July 26, 2011 (GVBl. p. 378), last amended on September 28, 2020 (GVBl. p. 758). It is designed with a focus on research.

**§ 2
Learning Objectives**

(1) Graduates of the master's degree program are well-acquainted with the major theoretical and empirical findings of cognitive neuroscience, as well as their biological, cognitive, and psychological bases. They have wide-ranging skills in research methodology that help them to identify new issues and questions in the area of cognitive neuroscience, carry out analyses by means of neurocognitive measurement methods, and make observations with the aid of mathematical and computer-based models. They are able to work independently on issues from the discipline of cognitive neuroscience and evaluate different approaches and methods with regard to their advantages and disadvantages.

(2) Along with their subject-specific qualifications, graduates also have teamwork skills, communication skills, and transferable skills. They are equipped with the techniques they require to carry out scientific research, read and compose texts in English, and present their work. They are familiar with ideas concerning gender and diversity, and are able to factor gender-related perspectives, including other viewpoints, into all aspects of their work.

(3) Graduates of the master's degree program are qualified to take on leading professional roles in a wide range of fields related to basic and applied research that employ methods from neurocognitive and behavioral science, such as healthcare, different industrial sectors, the digital economy, and academic research and teaching. Graduates of the master's degree program are also qualified to continue to doctoral study and thus gain additional academic qualifications.

**§ 3
Curriculum Contents**

(1) In order to achieve the relevant qualification goals, the master's degree program first addresses the general theoretical and empirical foundations of cognitive neuroscience. At the same time, it imparts methodological and data analysis skills, which then provide them with the basis they need to acquire specific skills to independently

¹These regulations were confirmed by the Executive Board of Freie Universität Berlin on December 18, 2020.

apply neurocognitive procedures and analyze the resulting data.

By providing students with an in-depth education and training in the applicable sub-areas of cognitive neuroscience, the master's degree program provides them with the skills they need to identify relevant cognitive psychological, behavioral, and neuroscientific issues, develop the appropriate empirical operationalizations, acquire and analyze the corresponding empirical data, and correctly interpret and present the results in an academic context. The degree program centers theoretical, methodical, and data analytical aspects as the foundations for independent scientific work.

(2) Students of the degree program become familiar with the content and working methods of research-oriented fields of study. Along with specialist skills in different areas of cognitive neuroscience, they acquire interdisciplinary skills and key qualifications that prepare them for research activities later on, including communicating scientific results as well as developing empirical questions and putting them into practice.

§ 4

General Academic Advising and Departmental Advising

(1) The Center for Academic Advising and Psychological Counseling at Freie Universität Berlin provides general academic advising for students.

(2) Instructors who teach courses offered in the master's degree program provide departmental advising during their office hours. A student aid is also available to give additional advising support. Furthermore, students are advised to discuss the suitability of their individual curriculum plan with their Office of Academic Affairs.

§ 5

Examination Board

The examination board is appointed by the Department Council of the Department of Education and Psychology, Freie Universität Berlin. The board is responsible for organizing examinations and the other tasks stipulated by the framework regulations for degree programs and examinations (RSPO).

§ 6

Standard Time to Degree

The standard time to degree is four semesters.

§ 7

Structure and Components; Distribution of Credit Points

(1) Students must complete modules totaling 90 credit points (CP) and a master's thesis with a corresponding colloquium and a presentation of their research totaling 30 credit points in order to complete the master's degree program.

(2) The master's degree program comprises required modules totaling 80 credit points and optional modules totaling 10 credit points.

1. The following required modules are to be completed:

- Module: Neurocognitive Foundations of Perception and Action (10 credit points)
- Module: Information Processing and Consciousness (10 credit points)
- Module: Affective and Social Neuroscience (10 credit points)
- Module: Neurocognitive Methods and Data Analysis (10 credit points)
- Module: Probabilistic and Statistical Modelling (10 credit points)
- Module: Introduction to Programming (5 credit points)
- Module: Computational Cognitive Neuroscience (5 credit points)
- Module: Neurocognitive Methods Practical (5 credit points)
- Module: Research Workshop (5 credit points)
- Module: Research Experience (10 credit points)

Students are afforded the opportunity to select specific topics within the modules, especially the module "Research Experience" (10 credit points).

2. One module totaling 10 credit points must be chosen and completed from the following optional modules:

- Module: Natural Language Processing (10 credit points)
- Module: Decision Neuroscience (10 credit points) or
- Module: The Neurobiological Principles of Mental Disorders and Psychotherapeutic Intervention (10 credit points)

(3) The module descriptions for each module in Appendix 1 provide information on the prerequisites, the contents and learning objectives, the modes of instruction, the workload, the different types of active participation, the various assessments that students must take during the program, information on participation requirements in the different modes of instruction, the standard duration, and how often courses are offered. Please refer to the Degree Program and Examination Regulations for the Master's Degree Program in Data Science within the Department of Mathematics and Computer Science and the Department of Education and Psychology for further information on the module "Natural Language Processing" (10 credit points).

(4) Appendix 2 is a standard plan for completing the master's degree program.

§ 8

Modes of Instruction

(1) The following modes of instruction will be offered as part of the curriculum:

1. Lectures (V) convey knowledge of a specific subject area and its research questions. The main mode of instruction is a presentation prepared by the respective instructor. The participants may interact with the instructor and engage in joint discussions at the end of individual sections.
2. Seminars (S) systematically convey more in-depth knowledge on a selected subject area, question, or issue within psychology. The main modes of instruction and learning include seminar discussions and group work among the participants, with students conducting independent research before and after the seminar in order to practice independent scientific work.
3. Practice sessions (Ü) instill practical knowledge and skills in students as well as techniques related to a specific subject area. Students learn how to independently work on a task according to scientific criteria, present the results, and discuss the subject using critical thinking. The main mode of instruction and learning involves the practical application of subject-specific skills in working with data analysis software.
4. Practical seminars (PrS) provide an opportunity for students to apply educational content and the working methods of psychology as a scientific discipline in the context of a practical project. The main mode of instruction and learning is the supervised implementation of a practical project.
5. A learning research workshop (LFP) is designed for students to integrate their theoretical knowledge and methodological expertise so that they can gain experience in research. They develop the ability to independently conduct empirical experiments. The main mode of instruction is intensive collaboration between instructors and small study groups.
6. Colloquia (Ko) facilitate the academic exchange of ideas in an open format and the presentation of up-to-date research results.
7. An internship (P) refers to a specialization of a student's knowledge through practical or research-oriented applications over a specific period or to gaining new knowledge and skills through practical work in an organization, institution, or by contributing to a specific process.
8. Methodology practice sessions (MÜ) enable students to build on their methodological skills, put them into practice in line with scientific criteria, and consolidate already acquired work techniques. The main mode of instruction and learning is the application of different subject-specific methods.

(2) The modes of instruction as outlined in Section 8.1 above can be implemented through blended learning formats. Blended learning combines on-site education with digital, internet-based media (e-learning). In this context, certain educational activities can be offered through Freie

Universität Berlin's central e-learning applications. Students can work on these activities individually or in groups. They can complete them on their own or with the guidance of an instructor. Blended learning can be used both as part of the active learning phase (discussing educational materials, sharing solutions to assignments, vigorous communication between instructors and students) and for follow-up activities (evaluating students' progress, applying and transferring knowledge).

§ 9

Master's Thesis

(1) The master's thesis is intended to demonstrate that a student has the ability to work independently on a research problem of their own choice from the field of cognitive neuroscience. They should be able to present their findings in a form that is appropriate to the topic and situate them within an academic context, as well as document their findings in writing and discuss them orally.

(2) Students will be admitted to work on a master's thesis by submitting a request, provided that

1. they were most recently enrolled in a master's degree program at Freie Universität Berlin,
2. and they have successfully completed modules totaling at least 60 CP in the course of the master's degree program.

(3) The admission request for the master's thesis must be accompanied by proper documentation of the prerequisites listed under Section 9.2. The relevant examination board is responsible for approving requests. The request must be accompanied by a confirmation from an instructor who is an authorized examiner that they are willing and able to act as supervisor for the master's thesis. If the request does not include confirmation from an instructor as described above, the examination board will appoint the student a supervisor.

(4) The examination board assigns the topic of the master's thesis in coordination with the thesis supervisor. The topic and assignment must be designed in such a way as to ensure the work can be completed by the deadline. The assignment and compliance with the submission deadline must be documented and kept on file.

(5) The student has 22 weeks to complete and submit the master's thesis. If a student is hindered from working on their master's thesis for more than three months due to mitigating circumstances, the examination board will decide whether the student must start the master's thesis process again. If the examination board demands that the master's thesis be submitted again, the previous steps in the master's thesis process do not count as an official examination attempt.

(6) The work period for the master's thesis begins with the date that the topic is assigned by the examination board. The topic can be declined once within two weeks of being assigned, in which case it will be deemed not issued. When the student submits their master's thesis they must include a written statement confirming that they alone are responsible for the content of the master's thesis and that they only used the sources or references listed in the thesis.

Students must submit an electronic copy of their master's thesis in Portable Document Format (PDF). Data sets and syntax files must also be submitted electronically for master's theses based on empirical research.

(7) The master's thesis will be accompanied by a scientific colloquium. Each student presents their master's thesis and stages of progress and reflects upon them under the guidance of the supervisor. Participation in the colloquium is mandatory.

(8) The results of the master's thesis are presented orally and discussed directly after the evaluation.

(9) The master's thesis is to be assessed by two authorized examiners appointed by the examination board, one of whom must be the supervisor of the thesis.

(10) The grade awarded for the written master's thesis constitutes four-fifths of the cumulative grade for the master's thesis, with the grade for the oral presentation constituting one-fifth.

(11) The master's thesis is considered passed if the overall grade awarded is "sufficient" (4.0) or higher.

(12) A student's work on a master's thesis elsewhere can be recognized/transferred to Freie Universität. The recognition request should be submitted to the examination board. In order for the master's thesis to be recognized, the examination conditions and the assignment of the submitted work must not differ substantially in terms of quality, level, learning outcomes, scope, and profile when compared to the examination conditions and the assignment of a master's thesis completed in this master's program, which characterize the type of professional qualification this master's degree program in particular provides.

§ 10

Electronic (Online) Examinations

(1) If examinations are offered in a digital/online format, the examination and grading for the examination will take place using digital technologies.

(2) Deviating or alternative formats to the type of module assessment defined in these degree program and examination regulations – especially digital written exams, take-home exams, term papers, or oral assessments conducted via video conference – are permitted if the module assessment cannot be conducted in the intended format due to extraordinary circumstances, the ramifications of which cannot be compensated in any other

way, or conducting the assessment would be unreasonable due to the disproportionate work involved, or doing so would be unreasonable for specific students. The examination board will make the final decision on whether and in which format the module assessment should be conducted. The subject-specific requirements of the module assessment must be upheld. Students are to be immediately informed of any such decisions as well as the format and scope of the assessments to be undertaken, the time of the module assessment, and any submission deadlines.

(3) The identity of the candidate taking the examination and the validity of the examination results must be authenticated. For this purpose, the examination results must be unambiguously identifiable and permanently assignable to the correct student in the digital system. It must be ensured that the electronic data are unchanged and complete for the purposes of grading and verifying the results.

(4) If an examination has been graded automatically via digital means, the student may request that an examiner verifies the result.

§ 11

Multiple-Choice Questions

(1) "Multiple choice" questions in an examination must be set by two examiners.

(2) If it becomes clear during the grading of multiple-choice questions that certain questions do not fulfill their purpose of obtaining reliable examination results and do not sufficiently reflect the qualification objectives of the relevant module, the grading process must be adjusted so that the examination candidate is not put at a disadvantage in their examination result.

(3) An examination in the form of multiple-choice questions is deemed passed if the candidate receives at least 50 percent of the possible maximum points (absolute passing grade), or if the number of points achieved by the student does not fall more than 10 percent below the average number of points achieved by all candidates who participated in the examination (relative passing grade). If the relative passing grade is used, the candidate must still achieve at least 40 percent of the total possible points in order to pass the examination.

(4) Multiple-choice examinations must be graded as described below. Where the candidate has achieved the minimum number of points as defined under Section 11.3

above, they will be graded according to the following criteria:

- “very good” for a number of points that totals at least 75 percent more than the required minimum number of points under Section 11.3;
- “good” for a number of points that totals at least 50 percent, but less than 75 percent, more than the required number of points under Section 11.3;
- “satisfactory” for a number of points that totals at least 25 percent, but less than 50 percent, more than the required number of points under Section 11.3;
- “sufficient” for a number of points up to 25 percent more than the required minimum number of points under Section 11.3.

For the grading system, please also refer to the framework regulations for degree programs and examinations (RSPO).

(5) The grading requirements stipulated above under 11.3 and 11.4 will not be applied if

1. the examiners who set the questions as described in Section 11.1 are also the examiners responsible for grading the multiple-choice answers, or
2. the proportion of maximum points achievable in the multiple-choice section makes up no more than 25 percent of the examination as a whole where the examination is only partly in multiple-choice format.

§ 12

Retaking Exams and Assessments

(1) If a student does not pass their master’s thesis and final colloquium, they can only reattempt the assessment one time. For all other exams and assessments in the program, they can retake them two times.

(2) Exams and assessments that receive a grade of “sufficient” (4.0) or better cannot be retaken.

(3) With regard to retaking the final examination before completion of the degree program, the examination board may decide on the request of the student that the exam to be retaken is held during the same semester as the preceding examination attempt.

§ 13

Study Abroad

(1) Students are encouraged to study abroad. While studying abroad student should pursue courses that can be accredited within the master’s degree program.

(2) Before starting a study abroad program, a learning agreement must be drawn up between the student, the head of the examination board, and the responsible point of contact at the host university. The agreement covers the

length of the study abroad period, the coursework to be completed while studying abroad, which must equate to the courses of the master’s degree program in terms of credit points, and the credit points to be allocated to the completed coursework. Coursework completed in accordance with this agreement will be recognized.

(3) The third semester in the program lends itself well to study abroad, and students are encouraged to study abroad then.

§ 14

Degree Completion

(1) In order to graduate, students must complete the coursework and assessments outlined in Sections 7 and 9.

(2) A student is not eligible for graduation if they have definitively failed some coursework or assessment or are involved in a pending examination procedure at another university in the same course of study or in a module that is identical or comparable to one of the modules to be completed in the master’s degree program here and that will be taken into account when determining their overall grade.

(3) The application request for the award of a degree must be accompanied by documentation showing the student has completed the requirements mentioned in Section 14.1 as well as a guarantee that the applicant is not subject to any of the eligibility restrictions mentioned in Section 14.2. The relevant examination board is responsible for approving the application.

(4) Upon successful completion of the assessment, the student will receive a Master of Science (M.Sc.) university degree. Students receive a degree certificate and a diploma (appendices 3 and 4), in addition to a diploma supplement (English and German versions). In addition, a degree certificate supplement with details of the individual modules and their components (transcript) is prepared. Additional English versions of the transcript and degree certificate may be issued upon request.

§ 15

Entry into Force and Interim Regulations

(1) These regulations enter into force on the day following their publication in *FU-Mitteilungen* (the official bulletin of Freie Universität Berlin) and apply from the 2021/2022 winter semester onward.

(2) With their publication, the Degree Program and Examination Regulations for the Master’s Degree Program in Social, Cognitive, and Affective Neuroscience of May 28, 2015 (*FU-Mitteilungen* No. 26/2015, p. 1033), amended on July 13, 2017 (*FU-Mitteilungen* No. 29/2010, p. 734), shall lapse.

(3) This regulation applies to students who are enrolled in this master’s degree program at Freie Universität Berlin after its entry into force. Students who were enrolled in the master’s degree program Social, Cognitive and Affective Neuroscience at Freie Universität Berlin before this

regulation's entry into force shall study and complete coursework on the basis of the degree program and examination regulations stated in Section 15.2 above, provided that they do not submit a request to the examination board to continue their degree program and complete coursework pursuant to the currently valid regulations. Should this request be granted, the examination board shall decide on the extent to which modules that the student has already begun or completed at the point in time at which the request was submitted shall be recognized and to what extent they can be accredited under the requirements of the currently valid regulations, whereby the requirements of the right to confidentiality and equal treatment shall be taken into account. The decision concerning the student's entitlement to continue their degree program pursuant to the currently valid regulations will apply from the beginning of the lecture period of the following semester onward. Once the request for continuation under the newest regulations has been approved, it is final and the student may not then apply to transfer their studies back to the previous regulations.

(4) Students are entitled to complete their degree on the basis of the degree program and examination regulations pursuant to Section 15.2 up until the end of the 2024 summer semester.

Appendix 1: Module Descriptions

Explanatory notes:

These module descriptions address the following aspects for each module in the master's degree program, unless otherwise noted that another set of regulations applies:

- The name of the module
- The person responsible for the module (module coordinator)
- The prerequisites needed in order to take a particular module
- The module's content and learning objectives
- Modes of instruction used in the module
- The amount of work required by students to successfully complete a module
- Types of active participation
- Types of assessments/examinations
- Whether or not regular attendance is required
- Credits awarded for the module
- Standard duration of the module
- Frequency
- Applicability

The information provided on student workload takes the following factors into account:

- Active participation during class sessions
- Time needed to complete small assignments during class sessions,
- Time needed for students' preparations before class and follow-up work
- Work on study units in online learning sections
- Preparation time required specifically for assessments/examinations
- The time needed for the assessment/examination itself

The amount of time indicated for independent study (including preparing for class, follow-up work, preparing for

an exam) are only approximations meant to help students organize their time when planning their workload for modules. The workload information corresponds to the number of credit points assigned to the respective module, which serves as a unit of measurement for the amount of work required to successfully complete the module. One credit point equals 30 hours.

If regular attendance is required for the specific type of instruction, then regular attendance, along with active participation in the instruction and successful completion of assessments, is necessary in order to receive credit points for the specific module. Regular attendance means that a student has attended at least 75% of the instruction in module. If regular attendance is not required in a module, students are still strongly encouraged to attend classes regularly.

Instructors teaching courses in which regular attendance is merely encouraged cannot decide that attendance should be required. For modules that include alternative forms of active participation, the type of participation, which must correspond to the workload allotted for active participation in the respective semester, must be determined by the responsible instructor during the first class period at the latest. To complete each module, the student must complete the module assessment for that module if the module has one. In order to finish a module, only one assessment (module assessment) must be completed. The module assessment is based on the module's learning objectives and serves as a way to test whether the objectives have been achieved. The scope of the assessment covers the components necessary to this end.

For modules that include alternative assessment forms, the type of assessment for the respective semester must be determined by the responsible instructor before the first day of class. Active and (if applicable) regular participation in the instruction and successful completion of assessments are necessary in order to receive credit points for the specific module. If a module does not involve a module assessment, then active and regular participation in the instruction is necessary in order to receive credit points for the specific module.

FU-Memoranda

| Module: Neurocognitive Foundations of Perception and Action | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | |
| Module contact: Head of Neurocomputation and Neuroimaging | | | |
| Access prerequisites: None | | | |
| Qualification objectives: The students possess advanced knowledge in neurocognitive psychology. They are familiar with central theoretical concepts, empirical findings and practical applications of neurocognitive methods in the field of cognitive neuroscience. Based on this knowledge, they are able to develop specific research questions (e.g., questions on object recognition or decision making), to link these with selected neurocognitive methods (e.g. reaction time measurement, oculo- and pupillometry, EEG, fMRI, fNIRS, non-invasive neuromodulation methods/tDCS/rTMS) according to the principle "methods must fit the questions" and to master the evaluation and interpretation of empirical studies. They are able to scientifically present and discuss empirical research results individually and in a team. | | | |
| Content: Theoretical foundations and important empirical findings from cognitive neuroscience and related basic subjects (e.g., general and biological psychology) will be taught using selected examples. Students will gain an overview of the combined use of selected neurocognitive methods in interaction with computational process models and their practical application possibilities. | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) |
| Seminar I | 2 | Discussion and presentation of appropriate literature group work | Presence time S I 30 |
| Seminar II | 2 | | Preparation and follow-up S I 70 |
| | | | Presence time S II 30 |
| | | | Preparation and follow-up S II 70 |
| | | | Examination preparation and examination 100 |
| Module examination: | | Exam (45 minutes) | |
| Event language: | | English | |
| Obligation for regular participation: | | Yes | |
| Overall work time and effort: | | 300 hours | 10 credits |
| Duration of module: | | Two semesters | |
| Frequency of availability: | | Once per academic year | |
| Applicability: | | Masters course in Cognitive Neuroscience | |

| Module: Information Processing and Consciousness | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | |
| Module contact: Head of Neurocomputation and Neuroimaging | | | |
| Access prerequisites: None | | | |
| Qualification objectives: Students have expanded their basic knowledge from the fields of general and neurocognitive psychology, especially with regard to the biological organizing principles of cortical information processing. Students know the anatomical principles of cortical micro- and macroarchitecture, as well as the biochemical and physiological bases of neuronal dynamics. Furthermore, they have extended knowledge of the investigation of signal processing in neuronal population networks. This includes in particular computer simulation models and neurocognitive methods in their application in the investigation of cognitive processes such as learning and memory processes. Furthermore, the students are able to apply these methods in different contexts, e.g., the investigation of emotion processing or consciousness processes, to interpret results and to present them in scientific discussions. | | | |
| Content: In this module, the theoretical foundations of neuronal signal processing on a micro- and macroscopic level of description, as well as their recording and modeling by means of suitable measurement and modeling procedures are addressed in depth, and the application of neurocognitive procedures is discussed on the basis of selected examples from the areas of learning, memory and emotion processing, as well as consciousness research. | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) |
| Seminar I | 2 | Discussion and presentation of appropriate literature group work | Presence time S I 30 |
| Seminar II | 2 | | Preparation and follow-up S I 70 |
| | | | Presence time S II 30 |
| | | | Preparation and follow-up S II 70 |
| | | | Examination preparation and examination 100 |
| Module examination: | | Exam (45 minutes) | |
| Event language: | | English | |
| Obligation for regular participation: | | Yes | |
| Overall work time and effort: | | 300 hours | 10 credits |
| Duration of module: | | Two semesters | |
| Frequency of availability: | | Once per academic year | |
| Applicability: | | Masters course in Cognitive Neuroscience | |

FU-Memoranda

| Module: Affective and Social Neuroscience | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | |
| Module contact: Head of Department of Biological Psychology and Cognitive Neuroscience | | | |
| Access prerequisites: None | | | |
| Qualification objectives: Students possess advanced basic knowledge in neurocognitive, emotion and motivation psychology. They acquire the theoretical and methodological knowledge to study affective and social processes in different contexts. They will be able to apply selected neurocognitive procedures to the study of affective and social processes in specific research contexts. | | | |
| Content: In this module, the theoretical foundations and practical applications of neurocognitive methods in the research area of affective and social processes are discussed in depth using selected examples. Studies in this area will be critically reviewed, results interpreted and discussed. | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) |
| Seminar I | 2 | Discussion and presentation of appropriate literature group work | Presence time S I 30 Preparation and follow-up S I 70 |
| Seminar II | 2 | | Presence time S II 30 Preparation and follow-up S II 70 Examination preparation and examination 100 |
| Module examination: | | Term paper (approx. 15 pages) or presentation (approx. 20 minutes) with written notes (approx. 8 pages) | |
| Event language: | | English | |
| Obligation for regular participation: | | Yes | |
| Overall work time and effort: | | 300 hours | 10 credits |
| Duration of module: | | Two semesters | |
| Frequency of availability: | | Once per academic year | |
| Applicability: | | Masters course in Cognitive Neuroscience | |

| Module: Neurocognitive Methods and Data Analysis | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | |
| Module contact: Head of Neurocomputation and Neuroimaging | | | |
| Access prerequisites: None | | | |
| Qualification objectives: The students have acquired essential theoretical background knowledge for the practical implementation and evaluation of experimental studies in the cognitive neurosciences. They know the physical, neurobiological, and data-analytical basics of typical neurocognitive methods (magneto- and electroencephalography (M/EEG), functional magnetic resonance imaging (fMRI)). Students are able to critically reflect on the possibilities and limitations of typical neurocognitive methods and to interpret research results obtained with the help of neurocognitive methods in the light of neurocognitive theories. | | | |
| Content: The module is divided into two thematic blocks. (1) Introduction to Magneto/Electroencephalography. Based on Steven Luck's "An introduction to the event-related potential technique" (2014) or a similar textbook, as well as further literature, basal aspects of neurophysiology and M/EEG signal generation, recording and analysis will be introduced. (2) Introduction to Functional Magnetic Resonance Imaging. Based on Scott Huettel's "Functional Magnetic Resonance Imaging, Second Edition" (2009) or a similar textbook, as well as further literature, basal aspects of fMRI signal generation, acquisition, and analysis are taught. | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) |
| Lecture | 2 | Group discussion | Presence time L 30 Preparation and follow-up L 70 |
| Seminar | 2 | | Presence time S 30 Preparation and follow-up S 70 Examination preparation and examination 100 |
| Module examination: | | Oral Exam (approx. 10 Minutes) | |
| Event language: | | English | |
| Obligation for regular participation: | | Seminar: Yes, Lecture: Participation is recommended. | |
| Overall work time and effort: | | 300 hours | 10 credits |
| Duration of module: | | Two semesters | |
| Frequency of availability: | | Once per academic year | |
| Applicability: | | Masters course in Cognitive Neuroscience | |

| Module: Probabilistic and Statistical Modelling | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | |
| Module contact: Lecturer of the module | | | |
| Access prerequisites: None | | | |
| Qualification objectives: Students are able to evaluate mathematical formulations of data analytic methods in cognitive neuroscience in a critically-reflective manner. They have intuitive and formal knowledge of common statistical and model-based paradigms in the analysis of imaging data. On the basis of their knowledge, they can evaluate and plan empirical investigations, especially in the research areas of cognitive neuroscience, and they are aware of their scope and limitations. | | | |
| Content: Four blocks of topics are covered. (1) A preliminary mathematics course is designed to refresh and deepen elementary mathematical knowledge acquired in school and undergraduate study. (2) The General Linear Model (GLM) is a unifying view of a number of statistical methods and models and a basic example of in-depth frequentist and Bayesian reasoning. In this topic block, the distribution theory of the GLM is discussed along with a number of applications. (3) Anatomical localization of cognitive processes is usually achieved by applying the GLM to fMRI data. In this topic block, special features of this method (e.g., control of type 1 error rate, psychophysiological interactions, etc.) will be discussed. (4) In a topic block on advanced methods of neuroimaging data analyses, approaches of biophysical modeling or multivariate analysis based on machine learning approaches are discussed. | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) |
| Lecture | 2 | Group discussion | Presence time L 30 Preparation and follow-up L 70 |
| Seminar | 2 | | Presence time S 30 Preparation and follow-up S 70 Examination preparation and examination 100 |
| Module examination: | | Written examination (90 minutes); the module examination can also be conducted in the form of an electronic examination (if necessary, in whole or in part in the form of the answer-choice procedure). | |
| Event language: | | English | |
| Obligation for regular participation: | | Seminar: Yes, Lecture: Participation is recommended. | |
| Overall work time and effort: | | 300 hours | 10 credits |
| Duration of module: | | Two semesters | |
| Frequency of availability: | | Once per academic year | |
| Applicability: | | Masters course in Cognitive Neuroscience | |

| Module: Introduction to Programming | | | | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----|-----------------------------|----|---------------------|----|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | | | | | | | |
| Module contact: Lecturer of the module | | | | | | | | | |
| Access prerequisites: None | | | | | | | | | |
| Qualification objectives: Students have acquired essential theoretical background knowledge for the practical implementation and evaluation of experimental studies in cognitive neuroscience. Specifically, they have acquired practical knowledge and experience in imperative and object-oriented programming with a 3GL/4GL programming language and understand the importance of programming skills in neurocognitive research. | | | | | | | | | |
| Content: Two blocks of topics will be covered. (1) Introduction to imperative programming with Python. In this topic block, basic programming concepts are introduced and practiced with the help of sample tasks. (2) Applications of imperative programming in neurocognitive research. Experimental, data-analytical, and simulation-based applications of 3GL/4GL programming in neurocognitive research will be introduced and practiced by means of small projects. | | | | | | | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) | | | | | | |
| Seminar | 2 | Programming exercises, presentation and written summary | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Presence time S</td> <td style="text-align: right;">30</td> </tr> <tr> <td>Preparation and follow-up S</td> <td style="text-align: right;">70</td> </tr> <tr> <td>Programming project</td> <td style="text-align: right;">50</td> </tr> </table> | Presence time S | 30 | Preparation and follow-up S | 70 | Programming project | 50 |
| Presence time S | 30 | | | | | | | | |
| Preparation and follow-up S | 70 | | | | | | | | |
| Programming project | 50 | | | | | | | | |
| Module examination: | | None | | | | | | | |
| Event language: | | English | | | | | | | |
| Obligation for regular participation: | | Yes | | | | | | | |
| Overall work time and effort: | | 150 hours | 5 credits | | | | | | |
| Duration of module: | | One semester | | | | | | | |
| Frequency of availability: | | Every winter semester | | | | | | | |
| Applicability: | | Masters course in Cognitive Neuroscience | | | | | | | |

FU-Memoranda

| Module: Computational Cognitive Neuroscience | | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----|-----------------------------|----|---------------------|----|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | | | | | | | |
| Module contact: Lecturer of the module | | | | | | | | | |
| Access prerequisites: None | | | | | | | | | |
| Qualification objectives: Students have acquired essential theoretical background knowledge of current approaches in computational cognitive neuroscience. They know about the importance of different model approaches for neuroscientific inference and can mathematically formulate and informatically implement different model approaches in an experimental context. | | | | | | | | | |
| Content: Current topics in computational cognitive neuroscience will be covered, such as Markov decision processes, partially observable Markov decision processes, reinforcement learning, drift-diffusion reaction-time models, biophysical network models, and neural networks. | | | | | | | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) | | | | | | |
| Seminar | 2 | Programming exercises, presentation and written summary | <table border="0"> <tr> <td>Presence time S</td> <td>30</td> </tr> <tr> <td>Preparation and follow-up S</td> <td>70</td> </tr> <tr> <td>Programming project</td> <td>50</td> </tr> </table> | Presence time S | 30 | Preparation and follow-up S | 70 | Programming project | 50 |
| Presence time S | 30 | | | | | | | | |
| Preparation and follow-up S | 70 | | | | | | | | |
| Programming project | 50 | | | | | | | | |
| Module examination: | | None | | | | | | | |
| Event language: | | English | | | | | | | |
| Obligation for regular participation: | | Yes | | | | | | | |
| Overall work time and effort: | | 150 hours | 5 credits | | | | | | |
| Duration of module: | | One semester | | | | | | | |
| Frequency of availability: | | Every summer semester | | | | | | | |
| Applicability: | | Masters course in Cognitive Neuroscience | | | | | | | |

| Module: Neurocognitive Methods Practical | | | | | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----|---------------------------|----|-----------------------------------------|----|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | | | | | | | |
| Module contact: Head of Neurocomputation and Neuroimaging | | | | | | | | | |
| Access prerequisites: None | | | | | | | | | |
| Qualification objectives: The students have practical knowledge regarding experimental planning and implementation and their application in the fields of social, affective, and cognitive neuroscience. They master the theoretical foundations and practical application possibilities of neuro-cognitive methods on the basis of selected examples. In addition, they are familiar with independent data collection and concrete evaluation (using appropriate software such as SPM or FSL). They are able to use this knowledge to develop research questions and their empirical implementation and to present and discuss both in oral and written form. Thus, important techniques of scientific work are practiced and teamwork and communication skills are trained. | | | | | | | | | |
| Content: Based on the basic knowledge acquired in the module Neurocognitive Methods and Data Analysis, the module deals with the practical application possibilities of neurocognitive methods. In particular, the application-oriented data collection and practical analysis with standardized methods (SPM, FSL, etc.) are covered. Univariate as well as multivariate analyses of fMRI data and EEG data are discussed in detail and methods for the analysis of structural and functional connectivity are presented. The practical application of the analysis procedures as well as the interpretation of the resulting results against the background of scientific initial hypotheses and theories will be explicitly practiced. | | | | | | | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) | | | | | | |
| Praxisseminar | 2 | Exercises for data acquisition and evaluation, presentation of findings | <table border="0"> <tr> <td>Presence Time S</td> <td>30</td> </tr> <tr> <td>Preparation and follow-up</td> <td>70</td> </tr> <tr> <td>Examination preparation and examination</td> <td>50</td> </tr> </table> | Presence Time S | 30 | Preparation and follow-up | 70 | Examination preparation and examination | 50 |
| Presence Time S | 30 | | | | | | | | |
| Preparation and follow-up | 70 | | | | | | | | |
| Examination preparation and examination | 50 | | | | | | | | |
| Module examination: | | Report (around 15 pages) | | | | | | | |
| Event language: | | English | | | | | | | |
| Obligation for regular participation: | | Yes | | | | | | | |
| Overall work time and effort: | | 150 hours | 5 credits | | | | | | |
| Duration of module: | | One semester | | | | | | | |
| Frequency of availability: | | Every winter semester | | | | | | | |
| Applicability: | | Masters course in Cognitive Neuroscience | | | | | | | |

| Module: Research Workshop | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | |
| Module contact: Head of Neurocomputation and Neuroimaging | | | |
| Access prerequisites: None | | | |
| Qualification objectives: The students master the subject-specific research methodology and know international research findings. They are able to actively and independently plan and conduct their own research projects. The students are able to interpret results based on theory and hypotheses, to critically classify them against the background of the international research basis, and to present them in oral and written form. | | | |
| Content: With a background in current neurocognitive theories and hypotheses, students will develop their own research questions in the social, cognitive and affective neurosciences and present them orally and in writing. They will also practice and critically reflect on the methodological and interpretative principles necessary for their empirical verification. | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) |
| Teaching Research Project | 2 | Preliminary discussion of the master's thesis with subsequent presentation and exposé | Presence Time TRP 30 |
| Methods Practice | 2 | | Preparation and follow-up TRP 60 |
| | | | Presence Time MP 30 |
| | | | Preparation and follow-up TRP 30 |
| Module examination: | | None | |
| Event language: | | English | |
| Obligation for regular participation: | | Yes | |
| Overall work time and effort: | | 150 hours | 5 credits |
| Duration of module: | | One semester | |
| Frequency of availability: | | Every winter semester | |
| Applicability: | | Masters course in Cognitive Neuroscience | |

| Module: Research Experience | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | |
| Module contact: Head of Neurocomputation and Neuroimaging | | | |
| Access prerequisites: None | | | |
| Qualification objectives: In the research internship, students test and expand the content-related and methodological competencies they have acquired in the subject modules. They know possible fields of activity and requirements in research institutions and are able to deal with institutional conditions. They have expanded their teamwork and communication skills, including their gender- and diversity-specific aspects, and have practiced the various forms of scientific work. | | | |
| Content: The research internship takes place in a domestic or foreign research institution under the guidance of an experienced scientist. The possible fields of application are very diverse and lie within the entire spectrum of neuroscientific research. Students are actively involved in the research process and participate in the theory-driven design, planning, execution, statistical analysis, interpretation and experimental or theoretical/simulation-based studies. | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) |
| Placement | 300 | Completion of the placement, placement supervision; Placement report | Presence time placement including preparation and follow-up 300 |
| Module examination: | | None | |
| Event language: | | English (other languages as required) | |
| Obligation for regular participation: | | Yes | |
| Overall work time and effort: | | 300 hours | 10 credits |
| Duration of module: | | One semester | |
| Frequency of availability: | | Every winter and summer semester | |
| Applicability: | | Masters course in Cognitive Neuroscience | |

FU-Memoranda

| Module: Decision Neuroscience | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | |
| Module contact: Head of Emotion Psychology and Affective Neuroscience | | | |
| Access prerequisites: None | | | |
| Qualification objectives: Students will be familiar with the theoretical foundations and practical applications of neurocognitive methods based on selected examples. They are able to apply methods in research contexts that are used in particular for the focus areas of clinical psychology and health psychology as well as work, organizational and business psychology and to explain and apply selected advanced neurocognitive procedures. They are able to conduct evaluations of empirical studies. They know relevant analysis software and can apply it to their own data sets. | | | |
| Content: In the module, students learn the theoretical principles and practical applications of neurocognitive methods using selected examples. These include electroencephalography, functional magnetic resonance imaging, near-infrared spectroscopy, eye movement measurement and non-invasive neuromodulation methods (direct current, transcranial magnetic stimulation). They will learn how to apply neurocognitive methods, especially in the field of clinical psychology and health psychology as well as work, organizational and business psychology, and how to interpret the results obtained. | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) |
| Seminar | 2 | Discussion, presentation, group work, elaboration report | Presence time S 30 |
| In-depth Seminar | 2 | | Preparation and follow-up S 75 Presence time IS 30 Preparation and follow-up IS 75 Examination preparation and examination 90 |
| Module examination: | | Seminar paper (around 15 pages) | |
| Event language: | | German and English | |
| Obligation for regular participation: | | Yes | |
| Overall work time and effort: | | 300 hours | 10 credits |
| Duration of module: | | Two semesters | |
| Frequency of availability: | | Once per academic year | |
| Applicability: | | Masters course in Cognitive Neuroscience | |

| Module: Neurobiological Foundations of Psychiatric diseases and psychotherapeutic interventions | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology | | | |
| Module contact: Head of the Department of Clinical Psychology and Psychotherapy Neurobiological Mechanisms of Therapeutic Interventions | | | |
| Access prerequisites: None | | | |
| Qualification objectives: Students will understand how the most important imaging methods (positron emission tomography (PET), (functional) magnetic resonance imaging (fMRI), electroencephalography (EEG)) are applied in the investigation of mental disorders. Students will be able to explain and differentiate between them and know the advantages and disadvantages of each method. They know some important experimental paradigms used in this research field. Furthermore, they are able to comprehend, interpret and critically evaluate imaging results published in journals. Students will be able to classify and compare the most important findings on the neurobiological basis of mental disorders. The students have an overview of the research results on neuroscientific psychotherapy studies. They will be able to compare and interpret the results. In addition, the students know the methodological limitations of the studies, can critically evaluate them and are able to formulate possible applications for psychotherapeutic practice. | | | |
| Content: At the beginning, the students will work in small groups to work out how the most important imaging methods work and present and discuss them with each other in the form of "expert rounds". Advantages and disadvantages of the respective methods will be compared and their fields of application will be evaluated. Subsequently, some of the most important experimental paradigms in the imaging of mental disorders will be explained. In the third part of the seminar, students work in small groups on the neurobiological basis of mental disorders. The central findings from meta-analyses and selected original work will be presented and discussed in input presentations. An important component will be a comparison of the neurobiological bases of different disorders. Associations between neurobiological findings and clinical symptoms will be central. The most important research results of studies in which the neurobiological basis of psychotherapy was investigated will be compiled and compared between different disorders. The results are discussed and questioned in relation to the experimental paradigms and psychological constructs used in each case. Methodological limitations as well as potential implications for psychotherapeutic practice will be discussed. | | | |
| Teaching and learning methods | Taught part of course (Hours per week per semester = HWS) | Forms of active participation | Work effort (hours) |
| Seminar I | 2 | Discussion and presentation of appropriate literature group work | Presence time S I 30 |
| Seminar II | 2 | | Preparation and follow-up S I 70 Presence time S II 30 Preparation and follow-up S II 70 Examination preparation and examination 100 |
| Module examination: | | Seminar paper (around 15 pages) | |
| Event language: | | English | |
| Obligation for regular participation: | | Yes | |
| Overall work time and effort: | | 300 hours | 10 credits |
| Duration of module: | | One semester | |
| Frequency of availability: | | Irregular | |
| Applicability: | | Masters course in Cognitive Neuroscience | |

Appendix 2: Example study schedule for master's course in Cognitive Neuroscience

| Semester | | Module and Credits | | | | | |
|-----------------------------------|------------------------------------------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------|---------------------------------------------------|-------------------------------------------------|----------------------------------------------|
| 1. Semester Winter 30 LP | 2. Semester Summer 30 LP | Neurocognitive Foundations of Perception and Action 10 LP | Information Processing and Consciousness 10 LP | Affective and Social Neuroscience 10 LP | Neurocognitive Methods and Data Analysis 10 LP | Probabilistic and Statistical Modeling 10 LP | Introduction to Programming 5 LP |
| | | | | | | | Computational Cognitive Neuroscience 5 LP |
| 3. Semester Winter 30 LP | Research Experience 10 LP | | | | | | |
| 4. Semester Summer 30 LP | Neurocognitive Methods Practical 5 LP | | Research Workshop 5 LP | Elective Module 10 LP | Masters Thesis and final viva 30 LP | | |
| | | | | | | | |

**Admissions Statutes for the Master's Degree Program
in Cognitive Neuroscience in the Department of
Education and Psychology at Freie Universität Berlin**

Disclaimer: Please note that only the German versions of these documents are legally binding. This translation is intended for the convenience of the non-German-reading public and is for information purposes only.

Preamble

On the basis of Section 14.1.1.2 of the supplemental rules and regulations (*Teilgrundordnung [Erprobungsmodell]*) of Freie Universität Berlin of October 27, 1998 (*FU-Mitteilungen 24/1998*) in conjunction with Section 15 of the Law on Admissions to Higher Education in the Federal State of Berlin for Programs with Admission Requirements (*Berliner Hochschulzulassungsgesetz, BerlHZG*), in the version of the announcement of the amended version of October 9, 2019 (GVBl., p. 695), last amended September 28, 2020 (GVBl., p. 758) in conjunction with Section 10.5.2 of the Berlin Higher Education Act (*Berliner Hochschulgesetz, BerlHG*) in the version of the announcement of the amended version of July 26, 2011 (GVBl., p. 378), most recently amended on September 28, 2020 (GVBl., p. 758), the Department Council of the Department of Education and Psychology at Freie Universität Berlin issued the following statutes on December 10, 2020.^{2*}

§ 1

Scope

These statutes govern admissions to the study program in accordance with Section 10.5.2 BerlHG and the selection procedure for the allocation of places in accordance with Section 15.1.1.1 BerlHZG for the master's degree program in Cognitive Neuroscience in the Department of Education and Psychology at Freie Universität Berlin. This is a consecutive master's degree program as defined under Section 23.3.1.1a BerlHG.

§ 2

Number of Available Places and the Application Process

(1) The number of places available for the master's degree program stipulated in Section 1 is determined for each admissions cycle in accordance with Freie Universität Berlin's admissions regulations.

(2) The application for admission must be submitted electronically using the online application system to the Admissions Office under Freie Universität Berlin's Executive Board.

(3) The application deadline is May 31 each year.

(4) The application for admission must be accompanied by an officially certified copy of the applicant's first university degree (or equivalent professional certification) as referred to in Section 3.1.

(5) Applicants can still submit their application to the master's degree program even if they do not have the university degree referred to below in Section 3.1 because certain assessment results are not yet available, as long as there is reason to believe, based on the applicant's record and especially their previous performance in examinations, that the university degree referred to in Section 3.1 will be completed before the master's degree program begins and that the requirements stipulated in Section 3.2 will also be fulfilled by the relevant deadline. This expectation is fulfilled in particular if at least two-thirds of the total coursework has been evaluated, the application for the final thesis project has been submitted, and the work schedule for the thesis has been set so that it can be completed in due time before the start of the master's program. The applicant's grade point average will be considered as part of the application and factors into the selection process. The grade point average is based on the applicant's previous academic performance as reflected in their current transcript, which they should submit with the application. In this case, the result of the university degree is irrelevant.

(6) Freie Universität Berlin has no obligation to investigate the facts of a case on its own initiative (*ex officio*).

§ 3

Admission Requirements

(1) Admission to the master's degree program requires a higher education degree (bachelor degree) or professional qualification from a German or comparable non-German institution with at least 180 credits completed in the following areas: psychology, neuroscience, cognitive science, data science, mathematics, physics, biology, or computer science. The completion of a qualifying examination in the field of medicine can also fulfill this requirement.

(2) Applicants who did not complete a university degree at an institution where coursework was conducted in English must demonstrate English language skills at a level equivalent to C1 of the Common European Framework of Reference for Languages (CEFR).

(3) The examinations committee is responsible for determining the equivalence of any documents submitted.

§ 4

Quotas, Selection Criteria, Organizational Aspects

(1) 80 percent of the study placements that are still available after the preliminary quotas have been filled will be distributed according to the selection process as

* This Charter was confirmed by the Executive Board of the Freie Universität Berlin on 27 April 2015 and by the Senate Department responsible for universities on 4 May 2015.

outlined in this document (higher education quota). 20 percent of the study placements will be allocated under Section 15.1.1.2 BerlHZG. 5 percent of the study placements are reserved for the quota stipulated in Section 5.1.3 BerlHZG.

(2) Candidates are selected for the master's program according to the following criteria:

1. The level of qualification as demonstrated by the applicant's academic performance in their previous degree program (Section 15.2.1.1 BerlHZG);
2. The result of a selection interview held with the candidate as stipulated in Section 4.5 of these Statutes below. The interview should allow the selection panel to gain an understanding of the candidate's motivation and their suitability for the master's degree program (Section 15.2.1.6 BerlHZG).

(3) In the selection process, selection points will be awarded under the criteria defined in Sections 4.2.1 and 4.2.2 above. The number of applicants admitted to the selection process shall be limited to three times the number of study placements available as determined by the higher education quota. The primary selection criteria to be applied is the applicant's level of qualification, that is, the result of the final examination/grade of their previous degree. The maximum number of points that can be awarded is 100.

(4) For the selection criteria listed under Section 4.2.1 of these statutes, a maximum of 60 selection points can be awarded in relation to the average grade stated on the degree certificate for the candidate's previous degree program. The points for each average grade are listed in the appendix to these statutes.

(5) For the selection criteria listed under Section 4.2.2 of these statutes, a selection interview will be conducted by the admissions officers according to Section 4.6 of these statutes. Interviews are not open to the public and should last about 10 minutes per applicant. The admissions officers will invite applicants to the selection interviews in writing, providing them with the time and location of their interview. The invitation must be issued and sent to the candidate at least 5 working days before the interview is to take place. A record is to be kept of each interview detailing the basis on which the applicant was assessed and the interview outcome. Up to 40 selection points can be awarded for the interview, depending on the assessment of the applicant's motivation and aptitude for the master's program.

- | | |
|-----------------------------|---------------|
| 1. Extremely well qualified | = 40 points |
| 2. Very well qualified | = 32 points |
| 3. Well qualified | = 24 points |
| 4. Qualified | = 16 points |
| 5. Potentially qualified | = 8 points or |
| 6. Not qualified | = 0 points |

(6) At least two admissions officers will be appointed to supervise the selection process. They are appointed by the dean of the department on behalf of the Executive Board of Freie Universität Berlin. Both officers must be authorized examiners for the master's degree program and must be university employees with Freie Universität Berlin as their main employer. The positions may not be filled by substitutes, replacements, or alternates. The admissions officers hold their positions for one admission cycle.

§ 5

Admission Decision

(1) The final admission decision is made by the Executive Board – Admissions Office on the basis of the outcome of the selection process.

(2) The selected candidates receive a formal notification of admission stating the deadlines for their written acceptance and enrollment. If a candidate fails to honor the deadline stipulated by the Admissions Office, their place will be given to someone else.

(3) Candidates selected on the basis of a transcript receive a conditional admission and can enroll initially for the first semester only. In general, they may enroll permanently thereafter provided that they submit proof that they have completed their first degree as set out in Section 3.1 by the end of the first semester together with proof of meeting any further requirements in relation to said degree. If such proofs are not furnished by the stated deadline, their admission to the program will lapse.

(4) Candidates who are not admitted to the program will receive notification that they have not been selected together with the grounds for the decision.

(5) All documents submitted as part of the application process must be retained until the admission decision is finalized. Should any legal proceedings ensue in relation to the application and decision process, the documents must be retained until a legally binding decision has been made.

§ 6

Entry into Force

(1) These statutes shall enter into force on the day after their publication in the official bulletin of Freie Universität Berlin (*FU-Mitteilungen, Amtsblatt der Freien Universität Berlin*).

(2) With their publication, the Statutes Regulating the Allocation of Places for the Master's Degree Program in Social, Cognitive, and Affective Neuroscience at the Department of Education and Psychology at Freie Universität Berlin of May 25, 2015 (*FU-Mitteilungen* 16/2015, p. 631), amended on March 10, 2016 (*FU-Mitteilungen* 7/2010, p. 75), shall lapse.

**Appendix 1
(regarding § 4.4 above):**

Allocation of selection points for the average grade in the certificate of the first university degree in accordance with § 4.4:

| Grade | Points |
|-------|--------|
| 1,0 | 60 |
| 1,1 | 58 |
| 1,2 | 56 |
| 1,3 | 54 |
| 1,4 | 52 |
| 1,5 | 50 |
| 1,6 | 48 |
| 1,7 | 46 |
| 1,8 | 44 |
| 1,9 | 42 |
| 2,0 | 40 |
| 2,1 | 38 |
| 2,2 | 36 |
| 2,3 | 34 |
| 2,4 | 32 |
| 2,5 | 30 |
| 2,6 | 28 |
| 2,7 | 26 |
| 2,8 | 24 |
| 2,9 | 22 |
| 3,0 | 20 |
| 3,1 | 18 |
| 3,2 | 16 |
| 3,3 | 14 |
| 3,4 | 12 |
| 3,5 | 10 |
| 3,6 | 8 |
| 3,7 | 6 |
| 3,8 | 4 |
| 3,9 | 2 |
| 4,0 | 0 |