Access Charter for the Masters course in Social, Cognitive and Affective Neuroscience in the Department of Education and Psychology at the Freie Universität Berlin

Preamble

By virtue of § 14, Para. 1 No. 2 of the Partial Basic Regulations (Test Model) of the Freie Universität Berlin dated 27 October, 1998 (FU Memoranda 24/1998) in conjunction with § 10 of the law governing admission to universities in Berlin in restricted admission courses (Berliner Hochschulzulassungsgesetz – BerlHZG [Berlin higher education admissions law]) in the version published as a revision on 18 June 2005 (GVBl. [Law and Ordinance Gazette] p.393, most recently amended on 26 June 2013 (GVBl. p. 198) in conjunction with § 10 Para. 5 Clause 2 of the law governing universities in Berlin (Berliner Hochschulgesetz – BerlHG [Berlin higher education act]) in the version published as a revision on 26 July 2011 (GVBl. p. 378) the Faculty Council of the Department of Education and Psychology at the Freie Universität Berlin issued the following Charter on 16 April 2015: [1]

§ 1
Scope of application

This Charter regulates access to studies under § 10 Para. 5 Clause 2 BerlHG and the selection procedure for the allocation of study places under § 10 Para. 1 No. 1 BerlHZG for the Masters course in Social, Cognitive and Affective Neuroscience in the Department of Education and Psychology at the Freie Universität Berlin (Masters course) being a consecutive Masters course under § 23 Para. 3 No. 1 Letter a BerlHG.

§ 2
Study places and application

(1) The number of study places available for the Masters course is stipulated in the admission regulations of the Freie Universität Berlin for each admission period.

(2) Application for admission must be made in writing to the Executive Board of the Freie Universität Berlin - Department for Applications and Admissions. Admissions applications are not valid if made only by fax, e-mail or other electronic media.

(3) The application period ends on 31 May in any given year.

(4) A first professional university degree under § 3 Para. 1 must be supplied in an officially accredited format and submitted with the application for admission to the course.

(5) Admission to the Masters course can be applied for even when the professional university degree mentioned in § 3 Para. 1 cannot yet be provided because individual examination results are still missing if it can be expected from previous studies, in particular previous examination results, that the professional university degree mentioned in § 3 Para. 1 will be obtained before the start of the Masters course and the measures that under § 3 Para. 2 are prerequisites for access to the Masters course are likewise promptly fulfilled. This expectation is met particularly if at least 2/3 of the overall workload has been assessed, registration for final assignments has been submitted and the start of work has been determined in such a way that timely completion before the beginning of the Masters course is possible. The application is entered into the selection procedure with the average grade calculated from examination results to date that are shown on the current performance and assessment transcript submitted by the applicant. In this case, the result of the professional university degree is not taken into consideration.

(6) The Freie Universität Berlin is not obliged to investigate the situation officially.

§ 3
Access prerequisites

(1) An access prerequisite for the Masters course is a Bachelors degree in one of the following areas: Psychology, Neuroscience, Cognitive Sciences, Physics, Biology, Computer Science or both sections of the medical examination or an equivalent professional German or foreign degree requiring at least six semesters of university study.

(2) Applicants who have obtained their university degree outside of education institutions in which English is the language of instruction must demonstrate knowledge of English at level C1 of the Common European Framework of Reference for Languages (CEF).

(3) The equivalency of any given evidence is decided by the Examination Committee. If requested, evidence is checked for equivalency, even outside of a current application procedure.

§ 4
Selection quotas, selection criteria, organisational matters

(1) After consideration of the advance quota, 80% of the remaining study places are allocated according to the selection procedure regulated by this Charter (higher education quota). 20 % of study places are allocated by virtue of § 10 Para. 1 Clause 1 No. 2 BerlHZG. The quota under § 10 Para. 1 Clause 3 BerlHZG amounts to 3%.

(2) Selection is made according to

1. the degree of qualification, which is calculated from the result of examinations in the previous course of study (§ 10 Para. 2 No. 1 BerlHZG) and

[1] 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.

2. the result of an interview with the applicant as set out in Para. 5, which should give some indication of their motivation and suitability for the Masters course (§ 10 Para. 2 No. 6 BerlHZG).

(3) In the selection procedure, selection points are awarded for the criteria as set out in Para. 2 No. 1 to No. 2. The maximum number of points achievable is 100.

(4) Up to 60 selection points are awarded for the selection criterion set out in Para. 2 No. 1, depending on the average grade achieved in the previous degree course as shown in the report in the appendix.

(5) For the selection criterion under Para. 2 No. 2, a selection interview will be carried out in line with Para. 6 by the Selection Officer, which is not public and which lasts around 20 minutes per applicant. Applicants are invited to the selection interview by a letter from the Selection Officer stating time and location. The invitation is sent at least 10 working days before the selection interview. A transcript is taken throughout the course of the selection interview, which records the significant reasoning in the assessment of the applicant. Depending on established suitability, up to 40 selection points are awarded as follows:

a) extremely suitable = 40 selection points,

b) very suitable = 32 selection points,

c) suitable = 24 selection points,

d) just suitable = 16 selection points,

e) conditionally suitable = 8 selection points or

f) not suitable = 0 selection points.

(6.) A minimum of two Selection Officers carry out the selection procedure. These are appointed by the Dean on behalf of the Executive Board. They must be authorised examiners in the Masters course and the employment at the Freie Universität Berlin must be their main job. Representation is not permitted. Appointment is made for each selection procedure.

§ 5
Admissions decision

(1) The selection decision is made by the Executive Board of the Freie Universität Berlin – Department for Applications and Admissions - on the basis of the results of the selection procedure.

(2) Selected applicants receive a letter of admissions, which stipulates the deadline for the written acceptance of the study place and for enrolment. If this deadline is not adhered to, the study place is reallocated according to the ranking list compiled by the Department for Applications and Admissions.

(3) Applicants accepted on the basis of the transcript receive conditional admission and can enrol temporarily for the first semester. Usually, by the end of the first semester, the professional university degrees mentioned in § 3 Para. 1 are produced and provide evidence of the associated prerequisites. Admission is cancelled if evidence is not provided promptly.

(4) Applicants that are not admitted receive a letter of rejection with reasons.

(5) The documents submitted in the selection procedure are to be retained until the decision comes into effect and in case of legal dispute until a legally binding decision is made.

§ 6
Commencement of effect

(1) This Charter comes into effect on the day after its publication in the FU-Memoranda (Official Journal of the Freie Universität Berlin).

(2) At the same time, the Access Charter for the Masters course dated 13 February 2014 (FU-Memoranda 13/2014, p. 158) ceases to be effective.

Appendix (to § 4 Para. 4)

Allocation of selection points for the average grade in the report from the previous degree course

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

Publisher: Executive Board of the Freie Universität Berlin, Kaiserswerther Straße 16–18, 14195 Berlin
ISSN: 0723-0745
Publishing and Sales: Kulturbuch-Verlag GmbH, Postfach 47 04 49, 12313 Berlin
Address: Berlin-Buckow, Sprosserweg 3, 12351 Berlin
Telephone: Sales 661 84 84; Fax: 661 78 28
Internet: http://www.kulturbuch-verlag.de E-Mail: kbvinfo@kulturbuch-verlag.de
Dispatch is made using an address file managed with the help of automated data processing (§ 10 Berlin Data Protection Act). The Official Journal of the FU is available online at www.fu-berlin.de/service/zuvdocs/amtsblatt.

Course and Examinations Regulations for the Masters course in Social, Cognitive and Affective Neuroscience in the Department of Education and Psychology at the Freie Universität Berlin

Preamble

By virtue of § 14, Para. 1 No. 2 of the Partial Basic Regulations (Test Model) of the Freie Universität Berlin dated 27 October, 1998 (FU Memoranda 24/1998), the Faculty Council of the Department of Education and Psychology at the Freie Universität Berlin issued the following Course and Examination Regulations on 28 May 2015 for the Masters course in Social, Cognitive and Affective Neuroscience at the Department of Education and Psychology at the Freie Universität Berlin: [2]

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§ 1
Scope of application

(1) These Regulations govern the objectives, content and composition of the Masters course in Social, Cognitive and Affective Neuroscience at the Department of Education and Psychology at the Freie Universität Berlin (Masters course) and as an enhancement to the Framework Study Regulations and the Framework Examination Regulations of the Freie Universität Berlin (RSPO) regulate the requirements and procedures for study and examination performance in the Masters course.

(2) They deal with a consecutive Masters course in line with § 23 Para. 3 No. 1 Letter a of the Berlin Higher Education Act (BerlHG) dated 26 July 2011 (GVBl. [Law and Ordinance Gazette], p. 378), which has a research-oriented structure.

§ 2
Qualification objectives

(1) Graduates of the Masters course have broad theoretical and methodological expertise in the analysis and prediction of the neurocognitive basis of experience and behaviour. They are able independently to analyse problems in the fields of social, cognitive and affective neurosciences, compare different methodological approaches and assess their advantages and disadvantages. Graduates are in a position to select a suitable methodological approach for a problem or issue from several possibilities. They are competent to carry out independent research activities in the fields of social, cognitive and affective neurosciences and other fields of psychological research.

(2) Besides their professional qualification, graduates have excellent team work, communication and transferable skills, which they can use to build networks. They are trained in gender and diversity aspects and can consider the gender perspectives and viewpoints at all stages of their work.

(3) They are qualified for academic activities in the field of basic and applied research with neurocognitive procedures and for an academic career in the fields of general and neurocognitive psychology, biological psychology and social, cognitive and affective neurosciences. Graduates possess the necessary academic skills to undertake doctoral studies.

§ 3
Course content

(1) To achieve the qualification objectives, the Masters course first covers in more detail the general theoretical and empirical basic principles from the fields of general and neurocognitive psychology, as well as from the fields of social, cognitive and affective neurosciences. In parallel to this, general methodological skills are taught, on the basis of which specific skills for the independent application of neurocognitive procedures are learned. Through intensified training in the relevant branches of the neurosciences, the Masters course

[2] These Regulations were confirmed by the Executive Board of the Freie Universität Berlin on 11 June 2015.

teaches the necessary skills to recognise relevant psychological and neuroscientific problems, to develop appropriate empirical ways of investigating these and to interpret the findings correctly in the neuroscience context. The course emphasises theoretical and methodological aspects as the basis for independent academic work.

(2) Students get to know the content and working methods for research-related fields of study. Alongside professional competence in the different fields of the neurosciences, they will learn interdisciplinary skills and obtain key qualifications with a view to later research employment. Beside the development and implementation of empirical studies, this includes the communication of academic findings. This also prepares them for employment in teaching within academic institutions.

§ 4
Student counselling and departmental advisors

(1) General student counselling is implemented by the Centre for Academic Advising and Psychological Counselling at the Freie Universität Berlin.

(2) Departmental advice is provided at regular appointments by the professors that offer seminars and lectures. It is also recommended that the suitability of the individual study schedule is discussed with the Study Office.

§ 5
Examination committee

The Examination Committee appointed for the Masters course by the Faculty Council of the Department for Education and Psychology at the Freie Universität Berlin is responsible for the organisation of examinations and for other tasks listed in the RSPO.

§ 6
Standard study period

The standard study period is four semesters.

§ 7
Composition and structure; Scope of services

(1) The Masters course is divided into a study phase worth 90 credits and the Masters thesis and final viva worth 30 credits:

(2) The following modules must be passed:

1. Statistical Methods (9 credits)
2. Neurocognitive Methods and Programming (9 credits)
3. Developmental/Evolutionary Neuroscience (9 credits)
4. Affective and Social Neuroscience (9 credits)
5. Clinical SCAN (9 credits)
6. Cognitive Neuroscience A (9 credits)
7. Cognitive Neuroscience B (9 credits)
8. Neurocognitive Methods Practical (9 credits)
9. Research Workshop (6 credits)
10. Research Experience (12 credits).

Within the modules, particularly modules 9 and 10, topics can be chosen.

(3) The module descriptions (Appendix 1) give information for each module about the admission requirements, the teaching and learning methods, the time and effort, the types of active participation, the course-related examination requirements, details about the obligation for regular participation in the teaching and learning methods, the credits awarded for each module, the standard duration and the frequency of availability.

(4) The example study schedule gives information about the recommended course of study (Appendix 2).

§ 8
Teaching and learning methods

(1) In the framework of the course, the following teaching and learning methods are offered:

1. Lectures (L) teach knowledge about a particular subject area and its research issues. The primary teaching method is lectures by current teaching staff. Interaction and joint discussions are possible at the end of individual sections.
2. Seminars (S) systematically teach deeper knowledge of selected topics or issues of psychology; they are based on the active oral and other collaboration of all participants as well as independent preparation and

follow-up work and aim to practise independent academic work.

3. Exercises (E) teach application-oriented knowledge of a limited subject area and ensure the acquisition of practical skills and working techniques. Students learn to manage a task independently according to academic criteria, to present their findings and to discuss them critically. The primary work form is the practical exercise of subject-specific skills in the handling of data analysis software.
4. Practice seminars (PrS) teach students the application of teaching and learning content and the work methods of the academic discipline of psychology in a practical project. The primary work form is the guided implementation of a project with accompaniment in practical fields.
5. Teaching research projects (TRP) integrate theoretical knowledge and methodological skills for the acquisition of early independent research experience. This develops the ability to carry out empirical investigations independently. The primary teaching form is the intensive interaction of teachers with small groups.
6. Vivas (V) offer the opportunity for professional exchanges of opinion without a prescribed format and the presentation of independent research findings in connection with the Masters thesis.
7. Placement (P) is the term for an opportunity for a certain period to sharpen skills already acquired or still to be acquired in practical (and research-related) applications and/or to learn new skills and abilities through practical activities within an organisation, in a work process or an institution.
8. Methods Practice (MP) aims to expand methodological skills and to apply these in a practical way while considering academic criteria and to reinforce the working techniques already acquired. The primary work form is the exercising and application of different subject-specific methods.

(3) The teaching and learning methods under Para. 1 can be implemented as blended learning arrangements. The taught part of the course is linked with electronic internet-based media (e-learning). Selected teaching and learning activities are offered via the central e-learning applications of the Freie Universität Berlin and are worked on by students alone or in groups either independently or under supervision. Blended learning can be used in the implementation phase (exchange and discussion of learning objects, solution of tasks, more intensive communication between students and teachers) and/or in the follow-up phase (progress checks, transfer support).

§ 9
Masters thesis

(1) The Masters thesis should show that the student is in a position to independently manage an issue in the field of social, cognitive and affective neuroscience at an advanced academic level and to present findings appropriately, to classify them in an academic way, to document them in writing and discuss them orally.

(2) Students are permitted to register for the Masters thesis when they

1. have recently been enrolled on the Masters course at the Freie Universität Berlin and
2. have successfully passed modules worth a minimum of 60 credits.

(3) Approval for the Masters thesis is precluded if the student has not completed work or achieved final examination results at another university in the same course or in a module to be completed in the Masters course that is considered identical or comparable in the calculation of the overall grade, or if the result of the student's examination is pending.

(4) Evidence that the prerequisites under Para. 2 have been satisfied and an assurance that none of the cases under Para. 3 apply to the applicant must be included with the application to register for the Masters thesis. The application decision is made by the relevant Examination Committee. Written confirmation of an appropriately qualified teacher who is prepared to take on supervision of the Masters thesis should be provided with the application; otherwise the Examination Committee will appoint a supervisor.

(5) The topic of the Masters thesis is issued by the Examination Committee in co-ordination with the supervisor. Topic and task description must be set out in such a way that the work can be completed within the work period. A record must be made of issue date and deadline compliance.

(6) The work period for the written part of the Masters thesis is 22 calendar weeks.

(7) The beginning of the work period is the date that the topic is issued by the Examination Committee. The topic may be refused once within the first two weeks and is then considered to not have been issued. On submission, the student is to assure in writing that the work has been completed independently and has not made use of any other sources or resources than those listed.

(8) The Masters thesis is accompanied by an academic viva. The hypotheses and working progress are to be presented and reflected on with guidance from the supervisor. Participation in the viva is obligatory.

(9) The Masters thesis includes a final viva, which is directly linked to the assessment. This presentation and discussion lasts around 45 minutes.

(10) The Masters thesis and final viva are assessed by two examiners appointed by the Examination Committee, one of which should be the supervisor of the Masters thesis.

(11) The grade of the written part has four fifths weighting and the grade of the oral part one fifth weighting in the summarised grade for the Masters thesis.

(12) The Masters thesis is passed when the summarised grade for the Masters thesis is at least “sufficient” (4.0).

§ 10
Repetition of examinations

(1) In the case of absence, the Masters thesis and final viva may be repeated once and other examinations repeated twice each.

(2) Examinations graded “sufficient” (4.0) or above may not be repeated.

§ 11
Multiple choice procedure

(1) Examination tasks in the form of multiple choice procedures are to be set by two examiners.

(2) If in the assessment of examination results, after the multiple choice procedure has been taken, there is an abnormal error burst in the responses to individual examination tasks, an examiner immediately passes all examination documents to the Examination Committee before making known the examination results. The Examination Committee checks the examination tasks to see whether the qualification objectives of the relevant module have been taken into account and reliable examination results can be given. If this check reveals that individual examination tasks contain errors, these are not to be considered when determining the examination result. The number of examination tasks to be considered when calculating the examination result is reduced accordingly. Reducing the number of examination tasks must not be detrimental to a student. If the proportion of assessment points in the examination tasks to be eliminated exceeds 15 per cent of the achievable assessment points in the multiple choice procedure, the examination is to be repeated in its entirety.

(3) An examination using the multiple choice procedure is considered passed when the student has achieved at least 50 per cent of the achievable assessment points (absolute pass mark) or when the number of assessment points achieved by the student does not fall below the average number of points achieved by participants of the relevant examination by more than 10 per cent (relative pass mark).

(4) Examination results achieved in the multiple choice procedure are assessed as follows: If the student has achieved the required minimum number of assessment points to pass the exam as stated in Para. 3, the grade is

– very good, with a mark of at least 75 per cent,

– good, with a mark of at least 50 per cent but less than 75 per cent,

– satisfactory, with a mark of at least 25 per cent but less than 50 per cent,

– sufficient, with a mark of zero, or less than 25 per cent of the required minimum number of achievable assessment points set out in Para. 3; the RSPO applies to the grades that are given.

§ 12
Study abroad

(1) It is recommended that students undertake a study placement abroad. Within the context of studying abroad, achievements should be creditable to the Masters course.

(2) Studying abroad should be preceded by the conclusion of an agreement between the student, the Chair of the Examination Committee responsible for the Masters course and the relevant person at the destination university, stating the duration of the placement, the activities to be pursued during the period of study abroad, which must be equivalent to the activities in the Masters course, and the credits allocated to the activities. Activities carried out according to the agreement are recognised.

(3) It is recommended that a study placement abroad is completed during the third semester.

§ 13
Completion of studies

(1) It is a prerequisite for the completion of studies that the activities set out in §§ 7 and 9 of this Charter have been completed.

(2) Completion of studies is precluded if the student has not completed work or achieved final examination results at a university in the same course or in a module to be completed in the Masters course that is considered identical or comparable in the calculation of the overall grade, or if the result of the student’s examination is pending.

(3) Evidence that the prerequisites under Para. 1 have been satisfied and an assurance that none of the cases under Para. 2 apply to the applicant must be included with the application for completion of studies. The application decision is made by the relevant Examination Committee.

(4) Based on successfully completed examinations, the university degree Master of Science (MSc) will be awarded. Students receive a report and a certificate (Appendices 3 and 4) as well as a Diploma Supplement (English and German versions). Furthermore, an extended report with details of the individual modules and their component parts will be compiled (transcript). On application, an additional English version of the report and certificate can be given.

§ 14
Entry into effect and transitional provisions

(1) These Regulations come into effect on the day after their publication in the FU-Memoranda (Official Journal of the Freie Universität Berlin).

(2) At the same time Course Regulations for the Masters course dated 13 June and 11 July 2013 (FU-Memoranda 40/2013, p. 812) and the Examination Regulations for the Masters course dated 13 June and 11 July 2013 (FU-Memoranda 40/2013, p. 825) cease to be effective.

(3) These Regulations are valid for students who have enrolled on the Masters course at the Freie Universität Berlin after they came into effect. Students who were enrolled on the Masters course at the Freie Universität Berlin before these Regulations came into effect study for and sit the examinations on the basis of the Course and Examination Regulations in line with Para. 2, unless they apply to the Examination Committee to continue their studies and to sit examinations under these Regulations. If application is made for a transfer, the Examination Committee decides on the scope of consideration for modules already completed or begun at the time of application and on the recognition of examinations to be taken in accordance with these Regulations, where the requirements of confidentiality and equal opportunities will be accommodated. The decision about the transfer application will be effective at the start of the lecture period following the semester in which the application was made. Transfer is not revisable.

(4) The opportunity for completion of studies on the basis of the Course and Examination Regulations under Para. 2 is guaranteed until the end of the summer semester 2017.

Appendix 1: Module descriptions

Comments:

The following module descriptions set out for each module of the Masters course

- the name of the module,
- the person responsible for the module,
- the prerequisites for access to each
- module,
- content and qualification objectives of the module,
- teaching and learning methods in the module,
- student work time and effort suggested for the successful completion of a module,
- forms of active participation,
- examination formats,
- the obligation for regular participation,
- the credits allocated to each module,
- the standard duration of the module, – the frequency of availability,
- the applicability of the module.

The information on the time and effort consider in particular

- the active participation in the context of the taught part of the course,
- the time and effort for handling smaller tasks within the context of the taught part of the course,
- the time for independent preparation and follow-up work,
- the completion of student units in the online study phases,
- the direct preparation time for examinations,
- the examination time itself.

The time frames for self-study (including preparation and follow-up work, examination preparation) are guidelines and should offer the students help in organising their time and work efforts for different modules. The information on work effort corresponds to the number of credits awarded for each module and serves as a rough measurement of the work effort to be performed by the student for the successful completion of the module. One credit corresponds to 30 hours.

If an obligation for regular participation is stipulated for each teaching and learning form, it is a prerequisite, alongside the active participation in teaching and learning forms and the successful completion of examinations, for the successful achievement of the credits awarded for each module. Regular participation is considered to be attendance at a minimum of 85% of the teaching and learning forms provided in the taught part of a module. Even if there is no obligation for regular participation in a teaching and learning form of a module, attendance is still strongly recommended. The stipulation of an obligation to attend by the relevant teacher is proscribed for learning and teaching forms for which participation is only recommended.

For each module, the associated module examination – if provided – must be taken. Graded modules can be completed only by taking an examination (module examination). The module examination is related to the qualification objectives of the module and tests the achievement of the module objectives by way of examples. The examination scope with be limited to the extent necessary for this. In modules where alternative assessment forms are provided, the assessment format for each semester is to be established by the teacher at the latest in the first teaching event.

The active and – if stipulated – regular participation in teaching and learning forms, as well as the successful completion of examinations in a module are a prerequisite for the successful achievement of the credits awarded for each module. For modules without a module examination, the active and regular participation in teaching and learning forms is a prerequisite for the successful achievement of the credits awarded for each module.

Module: Statistical Methods

University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology

Module contact: Head of Computational Cognitive Neuroscience

Access prerequisites: None

Qualification objectives:

Students are able to assess in a critical and reflective way the mathematical-theoretical formulations of data analysis methods in the cognitive neurosciences. Students have intuitive and formal knowledge of current statistical and model-based paradigms in the analysis of imaging data. On the basis of their knowledge, they can assess and plan empirical investigations, in particular in the neuroscientific research fields and they know their scope and limitations.

Content:

Five topic areas are covered:

1. A “Preliminary Mathematics Course” aims to refresh and extend the elementary mathematical knowledge gained in school and in undergraduate study.
2. The “General Linear Model (GLM)” is a generalisation of a range of statistical methods and a fundamental example for the better understanding of the classic frequency and Bayesian probability conclusions. This topic area will cover the distribution theory of the GLM and a range of applications (ANOVA, multiple regression, ANCOVA etc.). This topic area forms the basis for handling the GLM in the context of FMRI data analysis.
3. Besides the time-variance analysis, the observation of imaging data in the frequency range plays a central role in many places in the cognitive neurosciences. The objective of the topic area “Fourier Analysis” is the handling of mathematical foundations in the discreet Fourier Transform.
4. The anatomical localisation of cognitive processes is usually achieved through the “Application of the GLM on FRMI data”. This topic areas deals with the peculiarities of this process (e.g. checking the type I error rates, psychophysiological interactions etc.).
5. The modular view of neurocognitive processes is finally expanded by an introduction to the “Dynamic Causal Modelling (DCM)” of FRMI and EEG data from a connectivist viewpoint. In formal terms, the DKM is a connection of differential equation models with approximate Bayesian estimation procedures, which are each presented in this topic area.

Teaching and learning methods	**Taught part of course** (Hours per week per semester = HWS)	**Forms of active participation**	**Work effort** (hours)	
Lecture	2	Discussion, presentation, group work	Presence time L	30
			Preparation and follow-up L	60
			Presence time S	30
			Preparation and follow-up S	60
Seminar	2		Examination preparation and examination	90

Module examination:	Written exam (90 minutes); the module examination can also be carried out in the form of an electronic examination.	
Event language:	English	
Obligation for regular participation:	Seminar: Yes, Lecture: Participation is recommended.	
Overall work time and effort:	270 hours	9 credits
Duration of module:	Two semesters	
Frequency of availability:	Once per academic year	
Applicability:	Masters course in Social, Cognitive and Affective Neuroscience	

Module: Neurocognitive Methods and Programming

University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology

Module contact: Head of Computational Cognitive Neuroscience

Access prerequisites: None

Qualification objectives:

Students have acquired essential theoretical background knowledge for the practical implementation and assessment of experimental studies in the cognitive neurosciences. Students are in a position to reflect critically on the possibilities and limitations of neurocognitive methods (magneto/electroencephalography) and have furthermore acquired practical skills and experience in imperative programming, in particular the illustration of experimental paradigms.

Content:

Four topic areas are covered.

1. Introduction to the electroencephalogram (EEG). Based on the book “An Introduction to the EventRelated Potential Technique” (2014) by Steven J. Luck and further literature, basal aspects of neurophysiology and EEG signal generation, recording and analysis are taught.
2. Introduction to functional magnetic resonance imaging (FMRI). Based on the book “Functional Magnetic Resonance Imaging, Second Edition” (2009) by Scott Huettel et al., basal aspects of FMRI signal generation, recording and analysis are discussed.
3. Introduction to imperative programming with Matlab. In this topic area, the essential programming abilities are presented and practised with example tasks.
4. Introduction to the programming of neurocognitive paradigms. Using the Matlab Toolbox “Cogent”, the programming of cognitive paradigms will be discussed in theory and practice and practised using example projects.

Teaching and learning methods	**Taught part of course** (Hours per week per semester = HWS)	**Forms of active participation**	**Work effort** (hours)	
Lecture	2	Programming exercises, presentation and written summary	Presence time L	30
			Preparation and follow-up L	60
			Presence time E	30
			Preparation and follow-up E	60
Seminar	2		Examination preparation and examination	90

Module examination:	Oral examination (approx. 20 minutes)	
Event language:	English	
Obligation for regular participation:	Exercise: Yes, Lecture: Participation is recommended.	
Overall work time and effort:	270 hours	9 credits
Duration of module:	Two semesters	
Frequency of availability:	Once per academic year	
Applicability:	Masters course in Social, Cognitive and Affective Neuroscience	

Module: Developmental/Evolutionary Neuroscience

University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology

Module contact: Head of Evolutionary Psychology

Access prerequisites: None

Qualification objectives:

Students have sound knowledge of neurocognitive psychology with a focus on the evolution and development of neuronal correlates of socio-cognitive and emotional abilities. They recognise the central theoretical concepts, empirical findings and practical application possibilities of different neurocognitive procedures with a focus on their applications in for children and non-human primates. Based on knowledge already acquired about the anatomy and development of the brain in primates, they can develop specific studies with a view of the common ground and differences of social-cognitive, communicative and emotional abilities of humans their nearest relatives. They are in a position to present and discuss academically the research findings of appropriate literature.

Content:

Students obtain a comprehensive overview of the neuroanatomy of human and non-human primates with a focus on the ontogeny of neuronal of socio-cognitive, emotional and communicative skills. Particularly considered here are the peculiarities and limitations of applying neurocognitive procedures to infants (eye movement analysis, near-infrared spectroscopy, electroencephalography, functional magnetic resonance imaging) and special more invasive procedures for non-human primates (single-unit recording, lesions). The focus here is on the co-evolution of brain and behaviour and the influence of the social environment on the development of children as well as the resulting common ground and differences between humans and other primates. Topical focal points are the evolution and/or the acquisition of speech (lateralisation of functions, mirror neurons, underlying socio-cognitive abilities), social bonding, empathetic ability and emotion regulation as well as self-concept and consciousness, which are discussed in relation to the corresponding neuronal structures and the relevant neurocognitive procedures.

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	60
			Presence time S II	30
			Preparation and follow-up S II	60
Seminar II	2		Examination preparation and examination	90

Module examination:	Seminar paper (around 15 pages) or presentation (approx. 20 minutes) with written notes (around 8 pages)	
Event language:	English	
Obligation for regular participation:	Yes	
Overall work time and effort:	270 hours	9 credits
Duration of module:	Two semesters	
Frequency of availability:	Once per academic year	
Applicability:	Masters course in Social, Cognitive and Affective Neuroscience	

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 have enhanced basic knowledge of neurocognitive, emotional and motivation psychology. They obtain theoretical and methodological knowledge of the investigation of affective and social processes in different contexts. They can apply selected neurocognitive procedures to the investigation of affective and social processes in specific research contexts.

Content:

In this module, selected examples will be used to learn more detail about the theoretical basic principles and practical application possibilities of neurocognitive procedures in the field of investigating affective and social processes. Students learn to adapt studies from this field, to interpret findings and to discuss them.

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 60 Presence time S II 30 Preparation and follow-up S II 60 Examination preparation and examination 90
Seminar II	2		
Module examination:		Seminar paper (around 15 pages) or presentation (approx. 20 minutes) with written notes (around 8 pages)	
Event language:		English	
Obligation for regular participation:		Yes	
Overall work time and effort:		270 hours	9 credits
Duration of module:		Two semesters	
Frequency of availability:		Once per academic year	
Applicability:		Masters course in Social, Cognitive and Affective Neuroscience	

Module: Clinical SCAN

University/Department/Institute: Freie Universität Berlin/Charité Universitätsmedizin Berlin

Module contact: Head of Department of Psychiatric and Affective Neurosciences

Access prerequisites: None

Qualification objectives:

Students have enhanced knowledge of general theoretical basic principles and the practical application possibilities of neuropsychological methods and their peculiarities in clinical trials. They have teamwork and communication skills and can apply these in the diagnostic process of individual cases and group studies. They can assess and implement neuropsychological investigations in clinical and non-clinical contexts.

Content:

This module teaches the theoretical basic principles and practical application possibilities of neuropsychological procedures and deals more specifically with SCAN research questions. Using different test procedures and investigation populations, students learn how neuropsychological procedures and models are applied to empirical data and how to interpret the findings in a targeted way. This includes neuronal correlates of cognitive, mnestic and emotional functions, their disorders in patients with mental illnesses and brain damage as well as their diagnostic recording both in individual cases and in group studies.

Teaching and learning methods	**Taught part of course** (Hours per week per semester = HWS)	**Forms of active participation**	**Work effort** (hours)
Seminar I	2	Presentation or exercises on selected neuropsychological dimensions and procedures	Presence time S I 30 Preparation and follow-up S I 60 Presence time S II 30 Preparation and follow-up S II 60 Examination preparation and examination 90
Seminar II	2		

Module examination:	Seminar paper (around 15 pages) or presentation (approx. 20 minutes) with written notes (around 8 pages)	
Event language:	English	
Obligation for regular participation:	Yes	
Overall work time and effort:	270 hours	9 credits
Duration of module:	Two semesters	
Frequency of availability:	Once per academic year	
Applicability:	Masters course in Social, Cognitive and Affective Neuroscience	

Module: Cognitive Neuroscience A

University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology

Module contact: Head of Department of General Neurocognitive Psychology

Access prerequisites: None

Qualification objectives:

Students have enhanced knowledge of neurocognitive psychology. They know the central theoretical concepts, empirical findings and practical application possibilities of (neuro)cognitive procedures in the fields of cognitive and affective neurosciences. They are in a position, based on this knowledge, to develop specific questions (e.g. questions for reading and dyslexia research), to connect these with selected (neuro)cognitive procedures (e.g. ratings, reactions times, occulometry and pupillometry, EEG, FMRI, fNIRS, non-invasive neuromodulation procedures/tDCS/rTMS) according to the basic principle of “methods must fit the questions” and to master the assessment and interpretation of empirical investigations. They are in a position to present and discuss academically empirical research findings both individually and in a team.

Content:

Selected examples are used to teach theoretical basic principles and important empirical findings from the cognitive and affective neurosciences and the associated basic subjects (e.g. general and biological psychology). Students obtain an overview of the cross-pollination approach in selected (neuro)cognitive procedures in connection 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
			Preparation and follow-up S I	60
			Presence time S II	30
			Preparation and follow-up S II	60
Seminar II	2		Examination preparation and examination	90

Module examination:	Seminar paper (around 15 pages) or presentation (approx. 20 minutes) with written notes (around 8 pages)	
Event language:	English	
Obligation for regular participation:	Yes	
Overall work time and effort:	270 hours	9 credits
Duration of module:	Two semesters	
Frequency of availability:	Once per academic year	
Applicability:	Masters course in Social, Cognitive and Affective Neuroscience	

<table>
<tr><td colspan="4">Module: Cognitive Neuroscience B</td></tr>
<tr><td colspan="4">University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology</td></tr>
<tr><td colspan="4">Module contact: Head of Department of Biological Psychology and Cognitive Neuroscience</td></tr>
<tr><td colspan="4">Access prerequisites: None</td></tr>
<tr><td colspan="4">Qualification objectives:
Students expand their basic knowledge from the fields of general and neurocognitive psychology, primarily in relation to learning and memory processes. They have theoretical and methodological knowledge of the investigation of learning and memory processes, particularly with a view to their role in decision-making. This includes in particular computer simulation models and neurocognitive procedures. Furthermore, they can use these methods in different research contexts, interpret findings and present them in academic discussions.</td></tr>
<tr><td colspan="4">Content:
In this module, selected examples are used to discuss in more detail the theoretical basic principles and practical application possibilities of neurocognitive procedures in the fields of perception, learning, memory and decision-making as well as the application possibilities of neurocognitive procedures for research questions in the field of memory research and decision-making, where gender-specific and diversity aspects are emphasised.</td></tr>
<tr><td>Teaching and learning methods</td><td>Taught part of course
(Hours per week per semester = HWS)</td><td>Forms of active participation</td><td>Work effort
(hours)</td></tr>
<tr><td>Seminar I</td><td>2</td><td rowspan="2">Discussion, group work, presentation</td><td rowspan="2">Presence time S I 30
Preparation and follow-up S I 60
Presence time S II 30
Preparation and follow-up S II 60
Examination preparation and examination 90</td></tr>
<tr><td>Seminar II</td><td>2</td></tr>
<tr><td colspan="2">Module examination:</td><td colspan="2">Seminar paper (around 15 pages) or presentation (approx. 20 minutes) with written notes (around 8 pages); no differentiation for module examination assessment.</td></tr>
<tr><td colspan="2">Event language:</td><td colspan="2">English</td></tr>
<tr><td colspan="2">Obligation for regular participation:</td><td colspan="2">Yes</td></tr>
<tr><td colspan="2">Overall work time and effort:</td><td>270 hours</td><td>9 credits</td></tr>
<tr><td colspan="2">Duration of module:</td><td colspan="2">Two semesters</td></tr>
<tr><td colspan="2">Frequency of availability:</td><td colspan="2">Once per academic year</td></tr>
<tr><td colspan="2">Applicability:</td><td colspan="2">Masters course in Social, Cognitive and Affective Neuroscience</td></tr>
</table>

Module: Neurocognitive Methods Practical

University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology

Module contact: Head of Department of Neurocomputation and Neuroimaging

Access prerequisites: Successful completion of the module “Neurocognitive Methods and Programming” (9 credits)

Qualification objectives:

Students have practical knowledge regarding experimental planning and implementation and their application in the fields of the social, affective and cognitive neurosciences. Using selected examples, they master the theoretical basic principles and practical application possibilities of neurocognitive procedures. Furthermore, they are familiar with independent data acquisition and concrete evaluation (using appropriate software such as SPM or FSL). They can use this knowledge for the development of academic questioning and implement this empirically then present and discuss both of these orally and in written form. This practises important techniques for academic work and hones teamwork and communication skills.

Content:

Based on the basic principles acquired in the Neurocognitive Methods and Programming module, students are given concrete examples of data acquisition and data analysis to learn the theoretical basic principles and practical application possibilities of neurocognitive procedures. Dealt with in particular is application-oriented data acquisition and the practical evaluation of this using standardised procedures (SPM, FSL etc.). This involves thorough discussion of both univariate and multivariate analyses of FMRI data and EEG data as well as procedures for the analysis of structural and functional connectivity. Students learn the active application of procedures and how to interpret and discuss findings.

Teaching and learning methods	**Taught part of course** (Hours per week per semester = HWS)	**Forms of active participation**	**Work effort** (hours)	
Practice seminar I	2	Exercises for data acquisition and evaluation, presentation of findings	Presence time PrS I	30
			Preparation and follow-up PrS I	60
Practice seminar II	2		Presence time PrS II	30
			Preparation and follow-up PrS II	60
			Examination preparation and examination	90

Module examination:	Report (around 15 pages)	
Event language:	English	
Obligation for regular participation:	Yes	
Overall work time and effort:	270 hours	9 credits
Duration of module:	One semester	
Frequency of availability:	Once per academic year	
Applicability:	Masters course in Social, Cognitive and Affective Neuroscience	

Module: Research Workshop

University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology

Module contact: Head of Department of Neurocomputation and Neuroimaging

Access prerequisites: None

Qualification objectives:

Students master subject-specific research methodology and learn about international research findings. They are in a position actively and independently to plan research projects, implement them and present their findings appropriately.

Content:

In the events in the module, individual research questions in the social, cognitive and affective neurosciences are developed and presented orally and in writing; the methodological basic principles necessary for their empirical investigation are practised and reflected on critically.

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 Masters thesis with subsequent presentation and exposé	Presence time TRP	30
			Preparation and follow-up TRP	90
Methods practice	2		Presence time MP	30
			Preparation and follow-up MP	30

Module examination:	None	
Event language:	English	
Obligation for regular participation:	Yes	
Overall work time and effort:	180 hours	6 credits
Duration of module:	One semester	
Frequency of availability:	Once per academic year	
Applicability:	Masters course in Social, Cognitive and Affective Neuroscience	

Module: Research Experience

University/Department/Institute: Freie Universität Berlin/Department of Education and Psychology/Scientific Field Psychology

Module contact: Head of Department of Neurocomputation and Neuroimaging

Access prerequisites: None

Qualification objectives:

In a research placement, students try out and enhance the knowledge and methodological skills they have acquired in the modules. The know possible fields of employment and requirements in research facilities and can work within institutional environments. They have enhanced their teamwork and communication skills, including gender-specific and diversity aspects, and are practised in the different forms of academic work.

Content:

The research placement takes place in a domestic or foreign research facility under the guidance of an experienced scientist. The possible application fields are varied and cover the whole spectrum of neuroscientific research. Students are actively involved in the research process and collaborate on the conception, planning, implementation and evaluation of experimental investigations.

Teaching and learning methods	**Taught part of course** (hours)	**Forms of active participation**	**Work effort** (hours)
Placement	300	Completion of the placement, placement supervision; Placement report	Presence time work placement 300 Preparation and follow-up 10 Compilation of the placement report 50

Module examination:	None	
Event language:	English (other languages as required)	
Obligation for regular participation:	Yes	
Overall work time and effort:	360 hours	12 credits
Duration of module:	One semester	
Frequency of availability:	Once per year	
Applicability:	Masters course in Social, Cognitive and Affective Neuroscience	

Appendix 2: Example study schedule for Masters course SCAN

Semester	Modules and credits						
1st semester **Winter Semester** **31 credits** **2nd semester** **Summer Semester** **32 credits**	**Statistical Methods** **(9 credits)**	**Neurocognitive Methods and Programming** **(9 credits)**	**Developmental/ Evolutionary Neuroscience** **(9 credits)**	**Affective and Social Neuroscience** **(9 credits)**	**Clinical SCAN** **(9 credits)**	**Cognitive Neuroscience A** **(9 credits)**	**Cognitive Neuroscience B** **(9 credits)**
3rd semester **Winter Semester** **27 credits**	**Neurocognitive Methods Practical** **(9 credits)**		**Research Workshop** **(6 credits)**	**Research Experience** **(12 credits)**			
4th semester **Summer Semester** **30 credits**	**Masters thesis and final viva** **(30 credits)**						