



FACULTY IV

ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

STUDY GUIDE

COMPUTATIONAL NEUROSCIENCE

Master of Science



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ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

**Bernstein Center for
Computational Neuroscience
Berlin**

STUDY GUIDE

**COMPUTATIONAL
NEUROSCIENCE
Master of Science**

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Note

This study guide is regularly updated. Still it is recommended to visit our website for current consultation hours etc.

Imprint

Publishers: Faculty IV Electrical Engineering and Computer Science

Editors: Hanna Wesner, Mona Niebur, Vanessa Casagrande, Margret Franke

Layout: omnisatz GmbH, Berlin

Date: April 2015

Preface of the Head of the Master's Program Computational Neuroscience

Dear Students,

Welcome to the Master's Program Computational Neuroscience and congratulations for choosing this research-oriented program!

Computational Neuroscience is still a young discipline that can make an important contribution to the understanding of the brain and its functions with potentially important consequences for health (e.g. treating mental diseases) and engineering (e.g. for designing intelligent machines). Its interdisciplinary approach combines the expertise of computer scientists, engineers, biologists, physicists, physicians, psychologists and mathematicians. This allows hypotheses on the functioning of the neural system to be rephrased in mathematical terms that can be simulated and tested on the computer. Computer simulation is a modern form of "thought experiment" that is essential for the quest to understand such a complex structure as the brain. Computational Neuroscience also opens up new horizons for applications like neural implants, artificial limbs, intelligent computer systems, and autonomous robots.

With a master's degree in Computational

Neuroscience you will be able to pursue an academic career as well as starting a professional path in the private industry.

With this brochure, we would like to assist you in getting a good start. You will find information on the structure of the master program, module descriptions, regulations, and a list of useful links and contacts.

The Technische Universität Berlin, the Humboldt-Universität zu Berlin and the Bernstein Center for Computational Neuroscience (BCCN Berlin), where the program is embedded, offer an inspiring atmosphere and a great number of outstanding scientific events. Keep contact to your fellow students as well as to your mentor, tutors and lecturers. Shall you encounter any problems, don't hesitate to address them openly.

The program's coordination office will help you with all important issues. We wish you a motivating and successful time in our master's program.

Prof. Dr. Klaus Obermayer

Head of the Master's Program Computational Neuroscience

Studying Computational Neuroscience

Goal and Degree

The International Master's Program Computational Neuroscience is interdisciplinary and strongly research oriented. Neuroscience is one of the most intensively developing and important sciences of the 21st century. Understanding the functioning of the brain requires the collaborative efforts of neurobiologists, neuropsychologists, cognitive scientists, medical researchers, computer scientists, mathematicians, physicists, and engineers. Students who have completed the Master's Program will have the ability to communicate across these diverse disciplines which will help them to make their own contribution to the fast growing field of neuroscience. The master's degree is jointly awarded by Technische Universität Berlin and Humboldt-Universität zu Berlin.

Most of our graduates continue a scientific career and start with their doctoral studies. But there are very good options in the free economy as employees in the area of software programming or machine learning, too.

Structure of the MSc Computational Neuroscience

The program is structured in two phases:

1. Foundations
2. Research oriented phase

Each phase consists of modules. A module covers a certain topic using different teaching methods such as lectures, tutorials, practical courses, projects, and seminars. A module's

mean workload is given in credit points. A credit point is defined in agreement with the European Transfer and Accumulation System – CP, i.e. 30 hours of student invested time correspond to 1 credit point. The Master Program covers 120 credit points (CP) in total, i.e. two years divided in four terms. Each of the four semesters covers 30 credit points, i.e. 900 working hours. Each module is followed by an exam.

Definitions

At the end of this prospectus you will find a list of common abbreviations used in regulations, course schedules, etc. (see page 50).

Forms of exams:

Mündliche Prüfung/oral exam/ination

Schriftliche Prüfung/written exam/ination

Portfolioprüfung/portfolio examination*

Portfolio exams can be composed of different achievements. Students get detailed information concerning this issue in the coordination office of the MSc Computational Neuroscience.

Mentoring

Each MSc student has a faculty member as a mentor who gives advice in all academic matters such as selection of elective courses and

* Previously referred to as "Prüfungsäquivalente Studienleistung/study achievement equivalent to an exam" until the AllgStuPO (General Study and Examination Procedures, see page 22) came into force.

Structure of MSc Program

Recommended Modules					
1 st Semester 32 CP	Models of Neural Systems 12 CP	Acquisition and Analysis of Neural Data (I) 5 CP	Machine Intelligence (I) 6 CP	Individual Studies 6 CP	Programming Course and Project (I) 2 CP
2 nd Semester 28 CP	Models of Higher Brain Functions 12 CP	Acquisition and Analysis of Neural Data (II) 7 CP	Machine Intelligence (II) 6 CP	Programming Course and Project (I) 4 CP	
3 rd Semester 30 CP	3 Lab Rotations 3 x 9 CP	Ethical Issues and Implication for Society 3 CP			
4 th Semester 30 CP	Courses on Advanced Topics 10 CP	Master Thesis 20 CP			

career advice. Moreover senior students offer self-organized peer mentoring.

Recommended Study Course

We recommend taking the courses as shown in the table. In the 3rd and 4th semester it is possible though to adapt the study course

especially within the modules “Courses on Advanced Topics” and “Lab Rotations”.

Studying abroad

It is possible to do one of three lab rotations or the master thesis abroad with the co-supervision of a faculty member of the BCCN Berlin.

Overview Modules MSc Computational Neuroscience

Preparatory Courses (2 modules)

Mathematics Prep-Course
Responsible faculty member: Prof. Dr. W. Stannat
Course structure: Lecture, Tutorial (4 CP)

Neurobiology Prep-Course
Responsible faculty member: Prof. Dr. M. Larkum
Course structure: One week before the start of the winter semester, 30 hrs en block. The course is complemented by discussions and Q&A sessions based on reading materials provided during the lectures. (2 CP)

Foundations (1st and 2nd semester, 6 modules)

Models of Neural Systems, MNS (1st semester)
Responsible faculty member: Prof. Dr. R. Kempter
Course structure: Theoretical lecture (2 CP) Analytical tutorial (4 CP) Programming tutorial (4 CP) Experimental lecture (2 CP)

Acquisition and Analysis of Neural Data, AAND (1st and 2nd semester)
Responsible faculty member: Prof. Dr. M. Brecht
Course structure: Theoretical lecture (1 st and 2 nd semester, 2+2 CP) Laboratory practical (1 st semester, 3 CP) Analytical tutorial (2 nd semester, 5 CP)

Machine Intelligence, MI (1st and 2nd semester)
Responsible faculty member: Prof. Dr. K. Obermayer
Course structure: Theoretical lecture (1 st and 2 nd semester, 2+2 CP) Tutorial (1 st and 2 nd semester, 4+4 CP)

Models of Higher Brain Functions, MHBF (2nd semester)
Responsible faculty member: Prof. Dr. J.-D. Haynes
Course structure: Block seminar "Cognitive Neuroscience" (2 CP, before the start of the summer semester) Theoretical lecture (2 CP) Analytical tutorial (4 CP) Programming tutorial (4 CP)

Programming Course and Project, PCaP (1st and 2nd semester)
Responsible faculty member: Dr. R. Martin
Course structure: Theoretical lecture (2 CP) Programming tutorial (2 CP) Computer project (2 CP)

Individual Studies, IS (1st semester, upon consultation with mentor)
Responsible faculty member: Prof. Dr. K. Obermayer
Course structure: Students can attend courses, but – alternatively – they may also receive a specific assignment by their mentor, e.g. reading recommended book chapters or solving specific homework assignments. (6 CP)

Research-Oriented Phase (3rd and 4th semester, 4 modules)

Courses on Advanced Topic, CoAT (3rd and 4th semester, upon consultation with mentor)

Responsible faculty member:
Prof. Dr. K. Obermayer

Course structure:

Students can choose from all courses offered within the “Hauptstudium” or Master programs of all Berlin universities upon consultation with their mentor. Subjects will typically be chosen from the areas brain sciences, mathematics, psychology and cognitive science, computer science and engineering (10 CP from which 6 must be graded).

Lab Rotations

Responsible faculty member:
Prof. Dr. K. Obermayer

Course structure:

Every student will participate in research projects in three different laboratories affiliated with the Bernstein Center. Each of the three projects lasts for approximately two months. The projects will be tailored to give intensive hands-on experience to the students. They will carry out individual research projects, and will be supervised by a senior researcher. The three projects include at least one theoretical and one experimental project. The research topic is usually chosen from the current research projects of the program’s teaching faculty. Topics must be in line with those covered by the Master Program in Computational Neuroscience. Students have to conduct a (guided) literature survey within the area the research problem has been chosen from, and have to read and understand one or two selected original publications. Students have to formulate a short (max. 2 pages) project proposal, which is then to be discussed with members of the supervising research group. Students will then address the research problem independently in a rigorous scientific manner. Progress is monitored through regular meetings with members of the supervising research group. It is recommended to take the course as a block of seven consecutive weeks. (3 x 9 CP)

Ethical Issues and Implications for Society, EIS (3rd semester)

Responsible faculty member:
Prof. Dr. J.-D. Haynes

Course structure:

The course is offered as a winter school “Ethics and Neuroscience”. Students are required to prepare for the course using the reading material provided. The course itself consists of a combination of lectures and group discussions. At the end of each section the lecturer will engage the students in a critical discussion of each topic. At the beginning of the course students will also be assigned to discussion groups where each group takes over one typical “ethical dilemma” faced every day in neuroscientific research and in clinical practice. Over the week the students will learn to view their chosen topic from different angles and critically present their view on the topic in a group discussion in the last course section. The individual sections will be covered by experts in each field (stem cell research, animal experiments) and the data protection lecture will be provided by a computer security/data protection specialist. (3 CP)

Master Thesis (4th semester)

Responsible faculty member:
Examination Board MSc Computational Neuroscience

Course structure:

The Master Thesis of the Master Program Computational Neuroscience must be submitted as a written scientific report. Upon decision of the Examination Board, the Master Thesis can also be accomplished as a team-work. The period for completion of the thesis is 4 (four) months. At the candidate’s request, upon hearing the supervisor, the Examination Board may, by way of exception, extend this period. The topic of the Master thesis can be returned only once and only within the first six weeks of the period granted for completion of the thesis. (20 CP)

Elective Courses

(4 modules, 3rd or 4th semester)

GRK Lecture Series "Machine Learning and Computational Neuroscience"

Responsible faculty member:

Prof. Dr. K. Obermayer

Course structure:

Lectures take place on the first and third Wednesday of each month. Changes are possible. The course is managed via the learning management system "Moodle", for exact dates please see the schedule there.

Each lecture includes a tutorial in the form of exercises, the homework has to be submitted via Moodle within two weeks. (6 CP)

Neural Noise and Neural Signals – Spontaneous activity and information transmission in models of single nerve cells (only in the summer semester)

Responsible faculty member:

Prof. Dr. B. Lindner

Course structure:

Theoretical lecture (every week, 2 CP)

Tutorial (once in two weeks, 4 CP)

Stochastic Processes in Neuroscience

Responsible faculty member:

Prof. Dr. W. Stannat

Course structure:

Theoretical lecture (6 CP)

Tutorial (4 CP)

Stochastic Partial Differential Equations

Responsible faculty member:

Prof. Dr. W. Stannat

Course structure:

Theoretical lecture (6 CP)

Tutorial (4 CP)

Study Regulations

Study regulations for the Master's Program Computational Neuroscience of September 26th, 2005 (with changes of Sept 1st, 2009)

Annotation: Legally valid is only the original German version that can be downloaded under <http://www.bccn-berlin.de/Graduate+Programs/Master+Program/Administration/>

On the basis of § 74 sub-sec. 1 in connection with § 71 sub-sec. 1 no. 1 of the Law on universities in the Land of Berlin (Berlin Higher Education Act, Berliner Hochschulgesetz – BerlHG), as amended by the Amendment Act of 21st April 2005 (GVBl. [Gesetz- und Verordnungsblatt, Law and Ordinance Gazette] p. 254), the Joint Committee of the Charité University Medicine Berlin, the Department of Biology- Chemistry-Pharmacy of the Free University of Berlin, the Mathematical-Natural Science Faculty I of the Humboldt University of Berlin and the Faculty IV – Electrical Engineering and Computer Science of the Technical University of Berlin has issued the following Study Regulations.

§ 1 Scope of application

These Study Regulations govern the objective, contents and structure of the international Master's program in Computational Neuroscience at the Free University of Berlin, the Humboldt University of Berlin and the Technical University of Berlin.

§ 2 Study objectives

The objective of the interdisciplinary Master's program in Computational Neuroscience is to bundle, deepen and systematically supplement the knowledge, abilities and skills regarding studies on the characteristics and function of neural systems, which were acquired during the first degree course. The education shall enable the students to

work scientifically at a high level, and to bring the acquired knowledge into the areas of application of Computational Neuroscience in Health sciences and the IT area.

The study program is research-oriented and closely tied to current research. The students shall be enabled to:

- develop new theoretical concepts on the function of neural systems,
- set up, evaluate and examine mathematic models of neural systems in close coordination with experimental and clinical research,
- develop new experimental paradigms from theoretical concepts and mathematic models,
- enhance experimental and clinical methods by developing new procedures for data acquisition and analysis,
- perform a transfer of ideas between the study of neural systems and IT- applications – above all in the area of machine intelligence,
- use the acquired technologies also in the clinical field,
- deal with the ethical and social consequences of this direction of research. These study objectives require that:
 - the transfer of specialized knowledge will include theoretical, methodical and experimental bases,
 - the ability for interdisciplinary scientific work and for a successful theoretical-experimental cooperation in scientific projects (“lab rotations”) will be trained,
 - students will be made familiar with potential areas of application in the IT area and in Health Sciences and can deepen their knowledge in this area.
 - social competence will be developed for the interdisciplinary work in joint projects.

Therefore, one special focus is the extensive practical work within the framework of “lab rotations” (s. § 4, sub-sec. 5) and of the Master thesis, during which the students – together with their supervising working group – shall work on current research issues. The students shall be explicitly instructed to carry out combined experimental-theoretical projects; the bases for this are provided in the courses of the first year, during which theo-

retical, experimental und application-oriented subjects are combined. The increased demands on the quality of the education due to the interdisciplinary character of the program will be satisfied by a teaching staff that includes lecturers from the theoretical field, from the area of Experimental Neurosciences and from the clinical field.

Furthermore, the students should learn to see their area of expertise in the social context and to realize their responsibility in such conditions. Creative cooperation in interdisciplinary groups as well as gender competence should be supported by means of project and team work.

§ 3 Modules and module catalog

- (1) The program is subdivided into modules; their workload will be expressed in Credit Points (CP/Leistungspunkte – LP). A credit point represents an average workload of 30 working hours over one semester for participation in the courses, for independently dealing with the subject matter, for drawing up exercise papers, for preparing the examination and for the examinations themselves.
- (2) A module may consist of one or several courses and comprise various types of courses.
- (3) The module offer is divided into
 1. Compulsory modules, the participation in which is obligatorily required from the students.
 2. Compulsory optional modules: Modules that are chosen from a provided catalog.
 3. Optional modules: Modules that can be freely chosen from the range of scientific courses offered by the universities in Berlin and Brandenburg.
- (4) For all compulsory and compulsory optional modules, a module description is provided, including the following specifications:
 - Title of the module and credit points
 - Person responsible for the module and contact information
 - Qualification objectives
 - Contents
 - Module components
 - Description of teaching and learning types
 - Requirements for participation

Usability

- Workload and credit points
- Examination and grading of the module
- Duration of the module
- Number of participants
- Registration formalities
- References, scripts

The entirety of these module descriptions forms the program's module catalog. The module descriptions will be annually updated and published by the Joint Commission with decision-making power for the Master's program in Computational Neuroscience. Changes of the module description will only be permissible if the scope remains the same and if they are conform to the qualification objectives and to the contents to be transferred of the respective module.

§ 4 Structure of the program

- (1) The program comprises four semesters. The courses will be offered in such a way that the program can be commenced in the winter semester and concluded in the fourth semester, by completion of a Master thesis. The courses are offered in English.
- (2) The structure of the program in Computational Neuroscience and the time schedule for the program (study course schedule) results from the table on page 11.
- (3) During the program, the following modules are to be completed obligatorily:

Models of Neural Systems:	12 CP
Models of Higher Brain Functions:	12 CP
Acquisition and Analysis of Neural Data:	12 CP
Machine Intelligence:	12 CP
Programming Course and Project:	6 CP
Ethical Issues:	3 CP
- (4) 10 CP from freely chosen modules (pursuant to § 3 sub-sec. 3) must be contributed to the optional field of "Courses on Advanced Topics". The student determines the modules upon consultation by her/his mentor (see § 8 sub-sec. 1).
- (5) During the program, three projects ("lab rotation"), each comprising 9 CP, must be completed. At least one project must have an experimental focus, at least one further

Models of Neural Systems 12 CP	Acquisition and Analysis of Neural Data 12 CP	Machine Intelligence 12 CP	Programming Course and Project 6 CP	Individual Studies 6 CP	1 st Year
Models of Higher Brain Functions 12 CP					
3 Lab Rotations (three projects) 3 x 9 CP				Ethical Issues 3 CP	2 nd Year
Courses on Advanced Topics 10 CP	Master Thesis 20 CP				

project a theoretical focus. Each project shall be completed in a different working group of the center; jointly supervised interdisciplinary topics are expressly desired, however. In agreement with her/his mentor (§ 8 sub-sec. 1) and the future supervisor of the project, the student will determine the topic and work schedule. Topic and work schedule must be approved by the Examination Board, whereby – as a general rule – the student’s proposal should be complied with.

- (6) At the end of the program, a Master thesis comprising 20 CP must be written. It is expressly desired that the Master thesis will be written in the subject field of one of the “lab rotations” completed by the student.
- (7) Altogether, 6 CP are available for “individual studies” in order to close gaps in the student’s technical background resulting from her/his first degree course. In agreement with her/his mentor, the student will determine the content of the “individual studies”.
- (8) The program will be concluded with the Master’s examination.

§ 5 Recognition of study achievements

Study or examination achievements obtained abroad or at other German universities may, at request, be recognized. Details are governed by § 8 of the Examination Regulations for the Master’s program in Computational Neuroscience (PO CNS) and by the Examination Board (cf. § 6 of the Regulations of the Technical University of Berlin on the students’ rights and duties (OTU)).

§ 6 Course types

Study objectives can be reached through the following course types:

Lecture (VL, Vorlesung): In lectures, the teaching topic is presented by the lecturer in the form of regularly given lectures.

Exercise (UE, Übung): Exercises serve to review and deepen the subject matter transferred during the lectures and to enhance the ability to work independently, in a scientific and practice-oriented way.

Practical courses (PR, Praktika): Primarily, practical courses serve to acquire methodical abilities through practical work of the students and to

implement the subject matter dealt with in other courses.

Project (PJ, Projekt): Projects also serve to acquire methodical abilities and to implement the subject matter transferred in the courses in an exemplary way. They differ from the practical courses in the scope of the task to be performed, in their focusing on scientific issues and in the training of social competence, which is required for successful scientific work.

Integrated course (IV, Integrierte Lehrveranstaltung): In integrated courses, the various course types alternate without a fixed time limit. **Seminar (SE, Seminar):** Seminars serve for the independent, scientific development and deepening of subject fields and issues.

§ 7 Study counseling and special examination counseling

- (1) For general and psychological counseling, the Department for General Study Counseling of the Free University of Berlin, the Humboldt University of Berlin and the Technical University of Berlin will be at your disposal.
- (2) Counseling concerning the subject of study will be performed by the Examination Board. It will hereby be supported by the university lecturers involved in the teaching program of the Master's program.

§ 8 Mentor program

- (1) From the first semester onwards, each student will be assigned a university lecturer as mentor. The mentor may be changed provided that the new mentor agrees.
- (2) The mentor's activity centers on individual counseling and the provision of help when problems arise.

§ 9 Entry into force

These Study Regulations will enter into force on the day following that of their publication in the official newsletters of the Free University of Berlin, the Humboldt University of Berlin and the Technical University of Berlin.

Exam Regulations

Exam regulations for the Master's Program Computational Neuroscience of September 26th, 2005 (with changes of Sept 1st, 2009)

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On the basis of § 74 sub-sec. 1 in connection with § 71 sub-sec. 1 no. 1 of the Law on universities in the Land of Berlin (Berlin Higher Education Act, Berliner Hochschulgesetz – BerHGG), as amended by the Amendment Act of December 2nd, 2004, the Joint Committee of the Charité University Medicine Berlin, the Department of Biology-Chemistry-Pharmacy of the Free University of Berlin, the Mathematical- Natural Science Faculty I of the Humboldt University of Berlin and Faculty IV – Electrical Engineering and Computer Science of the Technical University of Berlin has issued the following Examination Regulations.

I. General Part

§ 1 Scope of application

These Examination Regulations govern the examination matters of the international Master's program in Computational Neuroscience of the Free University of Berlin, the Humboldt University of Berlin and the Technical University of Berlin.

§ 2 Purpose of the Master's examination

The Master's examination shall serve to determine whether the students have reached the study objectives formulated in the Study Regulations.

§ 3 Academic degree

On the basis of the passed Master's examination, the academic degree of "Master of Science" will be jointly awarded by the Free University of Berlin, the Humboldt University of Berlin and the Technical University of Berlin.

§ 4 Beginning of studies

The program will start in the winter semester.

§ 5 Structure of the program

- (1) The standard period of study is four study semesters. Vacation semesters in accordance with the Regulations of the Technical University of Berlin on the students' rights and duties (OTU) will not be taken into account.
- (2) The Master's examination will be taken in the form of study-accompanying module examinations and a Master thesis. Normally, the Master thesis will be written in the fourth semester.

§ 6 Examination Board

- (1) The Examination Board (EB) of the study program "Computational Neuroscience" will be responsible for all questions relating to these Examination Regulations as well as for all resulting tasks and decisions in examination matters, in particular for
 1. the selection of applicants pursuant to § 7 ZO (Zulassungsordnung = Admission Regulations),
 2. the organization of the examinations,
 3. the recognition of study and examination achievements,
 4. the preparation of lists of examiners and associate examiners,
 5. the decision pursuant to § 10 sub-sec. 3 on equivalent study or examination achievements for students who, due to physical handicap or impairment, are not able to provide study and examination achievements in the required form.

The Examination Board may, by resolution, revocably transfer responsibilities to its chairwoman or chairman. The person concerned

may raise objections to any decisions made on the basis of a transfer, which will be decided upon by the Examination Board. Members of the Examination Board cannot perform any responsibilities of this board, if they themselves are involved in the examination matter.

- (2) Decisions reached by the Examination Board will be communicated to the Examination Office of the Technical University of Berlin, in so far as this is required for its work or affects third parties' rights. The Examination Office will inform the person concerned of these decisions. The person concerned shall be given opportunity to be heard in accordance with due process of law.
- (3) The members of the Examination Board are allowed to be present at examinations as well as at the discussion of the examination results, and to fully inform themselves about the compliance with the Examination Regulations. They are not regarded as public pursuant to § 11 sub-sec. 4.
- (4) The Joint Committee with decision-making power for the Master's program in Computational Neuroscience (GKMe CNS) appoints the Examination Board by selecting
 - three professors as members as well as one professor as deputy,
 - an academic staff member as member as well as another academic staff member as deputy, and
 - a student as member as well as another student as deputy.
 The representatives of the respective status groups in the GKMe CNS shall have the right of nomination.
- (5) From the professors who form part of the Examination Board, the Examination Board will elect one as chairperson and the others as her/his representatives.
- (6) Pursuant to § 49 BerIHG, the term of office of the members of the Examination Board is two years, and that of the students' representative one year. A reelection is possible. The GKMe CNS can, by majority of its members, appoint a new Examination Board before the expiration of the term of office.

- (7) The members of the examination board as well as their deputies are subject to official secrecy. If they are not members of the public service, they shall be bound to official secrecy by the chairwoman or chairman.

§ 7 Examiners, associate examiners

- (1) Pursuant § 32 BerlHG, professors as well as habilitated academic staff can be appointed as examiners; in deviation of this, also non-habilitated academic personnel and assistant lecturers can be appointed, provided that they are entitled to teach independently.
- (2) The Examination Board appoints the examiners and associate examiners by assigning them to a specific module. Only persons, who have performed teaching activities in the field to which the examination relates, can be appointed as examiners. Only persons, who have completed university studies and who are experts in the field of the examination, can be appointed as associate examiners.
- (3) The examiners and associate examiners are subject to secrecy. If they are not members of the public service, they shall be bound to secrecy by the chairwoman or chairman.

§ 8 Recognition of study and examination achievements

- (1) Study periods, study achievements and examination achievements in other study programs will be recognized by the Examination Board, if equivalence is established. Equivalence is to be established if study periods, study achievements and examination achievements – with regard to contents, scope and requirements – essentially correspond to those of the joint international Master's program in Computational Neuroscience of the Free University of Berlin, Humboldt University of Berlin and Technical University of Berlin. In this context, instead of a schematic comparison, an overall examination and evaluation shall be conducted. As regards the recognition of study periods, study achievements and examination achievements performed outside the

scope of application of the German Framework Act for Higher Education (Hochschulrahmengesetz), the equivalence agreements approved by the Conference of Ministers of Education and Cultural Affairs (Kultusministerkonferenz) and the arrangements within university partnerships shall be taken into account.

- (2) Study period, study achievements and examination achievements of different European universities will be mutually recognized in accordance with the decision of the Examination Board.
- (3) If study and examination achievements are recognized, the grades – as far as the grade systems are comparable – shall be accepted and included in the calculation of the overall grade. If grade systems are not comparable, the annotation “pass” will be included. It is permitted to mark the recognition in the certificate.
- (4) The recognition of parts of the Master's examination can be denied, if more than half of the examination achievements, more than one project («Lab Rotation») or the Master thesis were performed outside the Master's program of Computational Neuroscience. In these cases, the Examination Board determines which modules and examination achievements still have to be performed within the Master's program of Computational Neuroscience.

§ 9 Data processing authorization and inspection of the examination files

- (1) The Students' Data Regulation (Studentendatenverordnung) of the Land of Berlin, as amended, shall apply to the collection and cancellation of students' data.
- (2) Within one year after completion of a module, the student will – at request – be allowed to inspect his written examination papers, the examiners' opinions and the minutes of the examination. In other respects, the Berlin Administrative Procedure Act (Verwaltungsverfahrensgesetz) shall apply.

II. Examination principles

§ 10 Examination types and language

- (1) As regards module examinations within the framework of the Master's examination, the following examination types are possible: oral examination (§ 11), written examination (§ 12) and study achievements equivalent to the examination (§ 13). Another examination achievement within the framework of the Master's examination is the Master thesis.
- (2) The language of studies and examination is English. Exceptions are governed by the Examination Board.
- (3) If a student – if necessary, by means of a medical certificate – satisfactorily shows that, due to a long-term or permanent physical handicap or impairment, she or he is not able to perform a study or examination achievement in the proposed form, the Examination Board is obliged to allow her or him to perform equivalent study or examination achievements in a different form.

§ 11 Oral examination

- (1) Oral examinations are taken as individual examinations. The duration of the examination is at least 20 minutes and at most 60 minutes. Upon approval by the candidate, it may, by way of exception, be exceeded. The examination will be carried out by one of the authorized examiners, in the presence of an associate examiner.
- (2) During the oral examination, tasks to be solved in writing may be assigned to a reasonable extent, provided that the oral character of the examination is maintained.
- (3) Subjects, results and the course of the oral examination shall be recorded in the minutes of the examination, which shall be signed by the examiner and associate examiner and then be enclosed with the examination files.
- (4) Students attending courses at the Free University of Berlin, the Humboldt University of Berlin and the Technical University of Berlin may sit in on oral examinations as listeners, provided that there is enough room available;

students who intend to take the same examination shall be given priority. Admission of the named persons does not extend to the discussion and announcement of the examination results. At the request of the candidate, the public shall be excluded.

The public may be excluded by the examiner, if the module examination is disturbed. In this case, the examination will be continued with the public excluded.

- (5) The examination may be interrupted by the examiner, if there is good reason. A new examination date shall be fixed in such a way that the examination will take place immediately after the reason for interruption ceases to exist. The examination results already achieved will be taken into account. A new registration for the examination is not required. The reasons that caused the interruption of the examination shall be included in the minutes of the examination.

§ 12 Written examination (written test)

- (1) A written examination (written test) is taken under supervision, with permitted aids. The duration of the examination is at least one and at most three hours. In general, it is to be assessed by two examiners.
- (2) The examiner decides which aids are permitted for a written test. A list of the permitted aids shall be announced at the same time as the examination date.

§ 13 Study achievements equivalent to the examination

- (1) A module examination in the form of study achievements that are equivalent to the examination consists of several different study achievements, which are performed within the framework of the courses assigned to the module. Study achievements that are equivalent to the examination may, for example, be required to be performed in the form of subject talks, papers, written tests, other written elaborations or recorded practical performances. These study achievements may also be performed in the form of group work, pro-

vided that the respective individual contribution to the achievement can be identified.

- (2) Type, scope and weighting of the study achievements that are equivalent to the examination will be determined by the person responsible for the module and announced at the beginning of the first course of a module. Moreover, they are stipulated in the module catalog, which is published every year by the GKmE CNS.

§ 14 Assessment of examination achievements

- (1) For the grading of study achievements, the following grades shall be used:

- 1.0/1.3 Sehr Gut (Very Good)
= excellent achievement
- 1.7/2.0/2.3 Gut (Good)
= achievement, which is considerably above average requirements
- 2.7/3.0/3.3 Befriedigend (Satisfactory)
= achievement, which in every respect meets average requirements
- 3.7/4.0 Ausreichend (Fair)
= achievement, which – despite deficiencies – still meets the requirements
- 5.0 Nicht ausreichend (Unsatisfactory)
= achievement with considerable deficiencies, which does not meet the requirements

- (2) The grades used for a summarized grade, if applicable (e.g. module examination by means of study achievements equivalent to the examination), are as follows:

- 1.0– 1.5 Sehr Gut (Very Good)
1.6– 2.5 Gut (Good)
2.6– 3.5 Befriedigend (Satisfactory)
3.6– 4.0 Ausreichend (Fair)
4.1– 5.0 Nicht ausreichend (Unsatisfactory)

- (3) Students who were assessed with at least Ausreichend (Fair) will receive the following CP Assessment for their overall grade, which gives information about the student's relative performance and is included in the Diploma

Supplement. The reference group should have a minimum size and is determined by the GKmE CNS.

The conversion of the overall grade to CP Assessment will be effected in accordance with the following table:

- A the best 10 %
B the next 25 %
C the next 30 %
D the next 25 %
E the next 10 %

The right to the award of an CP Degree will only be granted after the corresponding data are available.

- (4) The results of the individual module examinations shall immediately be announced to the candidate and be communicated to the Examination Office of the Technical University of Berlin within ten working days after the announcement. The module examination is passed, if the achievements have been assessed with at least Ausreichend (Fair). If it is not passed, a written notice will be issued, including instructions on the right to appeal and a specification of the period for the re-examination.

§ 15 Registration for module examinations, selection of examiner

- (1) Basically, the right to examination will continue to exist after removal from the register of students, provided that the required study achievements have been performed.
- (2) The registration for oral module examinations shall be made at the Examination Office of the Technical University of Berlin three working days before the examination date at the latest.
- (3) If there are several persons authorized to conduct the examination in a module, for which an oral examination is proposed, the candidate will be entitled to select one of these as examiner. At the examiner's well-founded request, the Examination Board may – after consultation with the candidate – appoint another examiner.
- (4) The registration for written module examina-

tions shall be made at the Examination Office, three working days before the examination date at the latest. The examination date will be fixed by the examiner and announced in due time – at the latest, however, four weeks before the examination date – by putting up a notice.

- (5) The registration for individual module examinations can be made dependent on the prior provision of specific study achievements.
- (6) A module examination in the form of study achievements that are equivalent to the examination starts on the day following registration at the examination office. The registration deadline will be set by the examiner and must be prior to the student's first examination, at least, however, 4 weeks after the beginning of the course, on which the study achievements that are equivalent to the examination are based. It shall be announced at the beginning of the course by putting up a notice.
- (7) The examination date shall be agreed between the candidate and the examiner, with due regard to the periods pursuant to subsections 2, 4 and 6.

§ 16 Withdrawal, absence, cheating, infringements of the regulations

- (1) The candidate may withdraw the registration for a module examination without giving any reasons, by communicating this to the Examination Board of the Technical University of Berlin as well as to the examiner three working days before the module examination at the latest (in the case of study achievements that are equivalent to the examination, prior to the first examination).
- (2) If a candidate fails to comply with any period according to sub-sec. 1, if she/he misses the examination date, if she/he withdraws after the beginning of the examination, or if the Master thesis is not submitted in due time, the examination concerned is considered to be failed.
- (3) The Examination Board shall immediately – via the Examination Office – be notified of

good reasons for the withdrawal or missing. In the case of illness of the examinee or of one of his close relatives who is in his care, a medical certificate attesting the inability to take the examination shall be enclosed. The Examination Board may ask for a medical certificate issued by the medical officer.

- (4) The Examination Board decides upon the recognition of good reasons pursuant to subsection 3. If the reasons are recognized, the examination is considered not to have been taken and a new date will be fixed. The examination results that have already been obtained shall be taken into account.
- (5) If the candidate culpably attempts to influence the result of his/her own examination or that of somebody else, by means of deceit or the use of aids that are not permitted, or if she/he disturbs the orderly course of the examination, then she/he may be excluded from continuing the examination by the examiner or by the person in charge. The examination will then be considered to be failed. It can be repeated according to § 17. If the candidate is excluded from continuing the examination, he may apply for cancellation of this decision by the Examination Board. If an act pursuant to phrase 2 only becomes known after conclusion of the Master's examination, § 21 will apply accordingly.

§ 17 Repetition of module examinations

- (1) Module examinations that have not been passed or that are considered not to have been passed can be repeated twice. The first repetition of a written examination shall be conducted in written form, the second one – orally. Failed attempts at other universities shall be taken into account. It is not permitted to repeat a passed module examination or re-examination.
- (2) The first re-examination shall take place until the beginning of the next semester, within 12 months after the date of the failed examination at latest. The Examination Board makes sure that the candidate can repeat the re-examination within these periods. The Exami-

nation Board can – at the written request of the candidate – extend the period for the first re-examination. The request shall be granted, if there are reasons, for which the candidate is not responsible.

- (3) The provisions on the withdrawal of an academic degree will remain unaffected.

III. Master's Examination

§ 18 Admission requirements and procedure

- (1) Prior to taking the first examination, the student shall file the application for admission to the Master's examination to the Examination Office of the Technical University of Berlin. The following documents shall be enclosed with the application, unless they have already been submitted to the Examination Office:
1. a declaration by the student that these Examination Regulations as well as the Study Regulations are known to her/him,
 2. a declaration by the student about whether she/he has already failed or finally failed an examination of the same or a related program at a Scientific University within the scope of the German Framework Act for Higher Education, or whether she/he is involved in a pending examination procedure,
 3. certificate of enrolment at the Technical University of Berlin for the international Master's program in Computational Neuroscience
 4. if applicable, confirmations of recognition pursuant to § 8.
- (2) Admission can only be denied if
1. the documents according to sub-section (1) are incomplete,
 2. the student is not enrolled at the Technical University of Berlin for the Master's program in Computational Neuroscience,
 3. the student has finally failed the Master's examination in the program of Computational Neuroscience or in a related program at a Scientific University within the scope of the German Framework Act for Higher Education,
 4. the student is currently involved in an ex-

amination procedure within the Master's program of Computational Neuroscience or within a related program at a Scientific University within the scope of the German Framework Act for Higher Education, or if the right to examination is extinct.

- (3) Admission to the Master's examination is considered to be granted if it has been demonstrated to the Examination Office that all admission requirements pursuant to sub-section (1) have been met, and if there are no reasons for denial pursuant to sub-section (2). If a student – through no fault of her/his own – cannot provide the necessary documents pursuant to sub-section (1), the Examination Board may allow her/him to provide the respective confirmations in some other way.

§ 19 Scope of examination and overall grade

- (1) The Master's examination consists of the Master thesis comprising 20 CP (Leistungspunkte = Credit Points) and the following module examinations comprising 100 CP:
1. Models of Neural Systems

Compulsory module	12 CP
Oral examination	
 2. Models of Higher Brain Function

Compulsory module	12 CP
Oral examination	
 3. Acquisition and Analysis of Neural Data

Compulsory module	12 CP
Oral examination	
 4. Machine Intelligence

Compulsory module	12 CP
Oral examination	
 5. Programming Course and Project

Compulsory module	6 CP
Study achievement equivalent to the examination	
 6. Individual Studies

Optional module	6 CP
Determined by the person responsible for the module	

7. “Lab Rotations”
(see § 4 sub-sec. 5 of the Study Regulations CNS (StuO CNS))
Three optional modules 9 CP each
Study achievement equivalent to the examination
 8. Ethical Issues and Implications for Society
Compulsory module 3 CP
Study achievement equivalent to the examination
 9. Courses on Advanced Topics
Optional module 10 CP
Determined by the person responsible for the module
- (2) The compulsory modules are listed in the module catalog of the Master’s program in Computational Neuroscience (see table 1: module catalog). Every year, the module descriptions will be updated and published by the Joint Committee with decision-making power for the Master’s program in Computational Neuroscience.
 - (3) The examinations for the modules of Programming Course and Project, Ethical Issues and Implications for Society, Individual Studies and “Lab Rotations” will be assessed with the grades “pass” or “fail”. The grade “fail” will be given for an achievement, which – due to considerable deficiencies – does not meet the requirements.
 - (4) Based on all other module grades of the Master’s examination and the grade of the Master thesis, an overall grade – weighted according to credit points – will be determined as arithmetic mean (grade point average). As regards the result, only the first decimal place behind the point will be taken into account; all further decimal places will be deleted without rounding. The overall grade then results from § 14 sub- sec. 2, the corresponding CP Assessment from § 14 Abs. 3.
 - (5) The Master’s examination is passed if all module examinations and the Master thesis have been passed, and it is finally failed if at least one of the aforementioned examination achievements has been finally failed.

§ 20 Master thesis

- (1) The Master thesis is an examination paper. It can also be written outside the two universities involved in the program; the regulations on the supervisor will remain unaffected. In the Master thesis, the candidate shall demonstrate that she/he is able to deal with a task in the respective study field independently and according to scientific methods, within the stipulated period of time. The Master thesis comprises 20 CP.
- (2) Upon successful completion of the modules mentioned in § 19 sub-sec. 1 under items 1–4, 6 and 8, the student may apply to the Examination Board for allocation of a Master thesis. In this context, the student can propose a supervisor and a topic; any examiner appointed according to § 7 sub-sec. 2, can be a supervisor. § 15 sub-sec. 3 phrase 2 applies accordingly. At the suggestion of the supervisor, upon consultation with the candidate, the Examination Board will allocate the topic and put the date of allocation on record.
- (3) The examination board pays attention to the equivalence of topics and that the Master thesis can be completed within the period fixed for completion of the thesis.
- (4) The period for completion of the thesis is four months. At the candidate’s request, upon hearing the supervisor, the Examination Board may, by way of exception, extend this period. The topic of the Master thesis can be returned only once and only within the first six weeks of the period granted for completion of the thesis.
- (5) The Master thesis must be written in English. Exceptional cases will be decided upon by the Examination Board.
- (6) Upon submission of the Master thesis, the student shall declare in writing that she/he has written the thesis without inadmissible help from third parties and that she/he has not used any other sources or aids than those specified. Borrowings from other theses are to be marked in the respective passages of the Master thesis. The finished thesis shall be submitted, in due time, in triplicate to the

Examination Office of the Technical University of Berlin, which will put the time of submission on record and forward the thesis for examination and assessment.

- (7) The candidate shall defend the results of the final thesis in a university-public colloquium.
- (8) The Master thesis shall be assessed by at least two experts, among them the supervisor, in accordance with § 14 sub-section 1. The second expert will be appointed by the Examination Board. Assessments shall be delivered to the Examination Board within two months upon submission of the thesis. If assessments differ from each other and prove to be *Nicht Ausreichend* (Unsatisfactory) in one case, the Examination Board will seek to reach an agreement between the experts – if necessary, with the aid of another expert. The grade as well as the assessment will in this case be determined by the professors of the Examination Board. If the assessments given by the experts differ from each other, but are at least *Ausreichend* (Fair) in both cases, the individual grades will be averaged and an overall grade will be determined according to § 14 Abs. 2.
- (9) Master's theses that have not been submitted in due time or have not been assessed with *Ausreichend* (Fair) may be repeated only once. It is only permitted to return the topic within the period of time specified in sub-section 4, if the candidate has not made use of this possibility during her/his first Master thesis. In other respects, § 17 sub-sec. 2 applies.
- (10) The assessed Master thesis remains with the supervisor's institute. It may temporarily be left to the author for inspection and for making copies. It shall be kept for at least three years.

§ 21 Invalidity of the Master's examination

- (1) If the candidate cheated during an examination and if this only becomes known after the certificate has been issued, the examination board can subsequently declare the respective examination to have been failed. It can be repeated in accordance with § 17.

- (2) If the requirements for admission to the Master's examination were not met without the candidate trying to deceive, and if this only becomes known after the certificate has been issued, then passing the examination will nullify this defect. If the candidate has wrongly obtained admission on purpose, the Examination Board will decide upon the withdrawal of the admission.
- (3) Prior to a decision, the student shall be given the opportunity to express her/his opinion.
- (4) The incorrect certificate shall be withdrawn and, if applicable, a new one shall be issued. After a period of five years following the date of the certificate, a decision pursuant to sub-section 1 and sub-section 2, phrase 2, will be excluded.
- (5) Sub-sections 1 to 4 will accordingly apply to written confirmations pursuant to § 22 sub-sec. 7 and 8.
- (6) The provisions on the withdrawal of an academic degree will remain unaffected.
- (7) A complaint against the decision made by the Examination Board may be filed to the Berlin Administrative Court.

§ 22 Certificates, Diploma, Diploma Supplement

- (1) Upon successful completion of the Master's examination, a German certificate will immediately be issued by the Examination office of the Technical University of Berlin, and an English translation will be enclosed. In the certificate, the following information will be provided:
 1. Program,
 2. Overall assessment and grade,
 3. for each examination subject pursuant to § 19 sub-section 1: name, scope in credit points, and assessment and grade for the module examination,
 4. Subject, scope in credit points and assessment for the Master thesis, as well as the names of the examiners of the Master thesis,
 5. at the request of the candidate, which is to be filed before the issuing of the certificate, the number of study semesters required to complete the Master's degree,

6. an annotation stating that a Diploma Supplement was issued,
- (2) The certificate bears the date of the day on which the candidate has taken the last examination. It will be signed by the dean of Faculty IV of the Technical University of Berlin, on behalf of the faculties involved in the program. The certificate bears the seal of the three universities involved (Free University of Berlin, Humboldt University of Berlin, Technical University of Berlin).
 - (3) If any achievements specified in the certificate were not performed within the Master's program of Computational Neuroscience, this will be noted in the certificate.
 - (4) In addition to the certificate for the Master's examination, a German diploma with the same date will be issued by the Examination Office for the award of the academic degree of Master of Science (M. Sc.) within the program of Computational Neuroscience, and an English translation will be enclosed. The diploma will be signed by the president of the Technical University of Berlin, on behalf of the three universities involved in the program, and by the dean of Faculty IV of the Technical University of Berlin, on behalf of the faculties involved in the program. The diploma bears the seal of the three universities involved.
 - (5) The right to use the academic degree 'Master of Science' will be acquired after the diploma has been issued.
 - (6) The certificate for the Master's examination and the diploma include the statement that the examination has been taken in accordance with the provisions of the Examination Regulations applicable in each case.
 - (7) In addition to certificate and diploma, the Examination Office issues a German Diploma Supplement and encloses an English translation.
 - (8) If a candidate has failed the Master's examination, she/he will – at request – be issued a graded confirmation by the Examination Office. This confirmation includes the modules already completed and specifies the examinations still to be taken. If, in one module, there is no more possibility for repetition, it will be specified in the confirmation that the Master's examination has been finally failed.

IV. Final Provisions

§ 23 Entry into force

These Examination Regulations will enter into force on the day following that of their publication in the official newsletters of the Free University of Berlin, the Humboldt University of Berlin and the Technical University of Berlin.

General Study and Examination Procedures

Regulations Governing General Study and Examination Procedures (AllgStuPO) dated May 8, 2013

I. General Section

Article 1 Scope of application

These regulations govern the organization and implementation of studies and examinations for all degree courses at Technische Universität Berlin.* Subject-specific provisions that do not conflict with these regulations are not affected. Where responsibilities are set out for a faculty herein, this is merely for the purpose of linguistic simplification. Provisions apply in equal measure to joint committees, according to Article 74 of the Berlin Higher Education Act ("BerlHG").

Article 2 Legal effect, annulment

- (1) These regulations take effect in the 2014 summer semester, but at the latest on the day after publication.
- (2) All applicable course and examination regulations upon these regulations taking effect shall be adjusted hereto within no more than one year.¹⁾ Primacy of the provisions hereof is not affected.

II. General Objectives of Study

Article 3 Qualifications framework

- (1) Technische Universität Berlin combines scientific, technical, arts-based and social science thinking and action into one unit. According to the mission statement of TU Berlin, the study programs qualify students to act with social responsibility, in addition to providing expertise. The qualification goals of TU Berlin studyprograms are geared to the

* Discontinued undergraduate and graduate degree courses and those governed by the statutes on taking final examinations in discontinued undergraduate and graduate degree courses at Technische Universität Berlin ("AuslaufSa") are excluded from the application of examination regulations. No adjustment is made to the regulations for undergraduate and graduate degree courses, pursuant to Article 2 (2).

European Qualifications Framework for life-long learning, which have different learning outcomes in terms of knowledge, skills and abilities.

- (2) A Bachelor's degree confirms that graduates have scientific foundations and advanced knowledge of their subjects, qualifying them to resolve complex, specialist problems through ambiguous and/or unforeseeable solutions, including in positions with management and decision-making responsibility. Moreover, a Bachelor's degree from TU Berlin confirms that graduates are able to consider the social consequences of scientific action – beyond the boundaries of their subject – in their work. Such knowledge, skills and abilities qualify them for admission to a Master's program and employment on the labor market.
- (3) A Master's degree confirms that graduates also have broad and in-depth knowledge of their subjects, are able to enhance such knowledge in a scientific and methodical way, and possess specialist problem-solving skills, integrating knowledge from other sectors, which results in new findings and trends. They are characterized by strategic thinking and action with regard to social responsibility and sustainable development.
- (4) These qualification goals are specified as learning outcomes in course regulations.

Article 4 Internationalization

- (1) TU Berlin is considered a scientific and international educational institution, where students acquire international experience and intercultural and foreignlanguage skills, especially in English, in the course of their studies, in preparation for a global labor market.
- (2) All study programs are organized in such a way that students are able to stay abroad without discrimination; a mobility window is

scheduled and designated in the course regulations. The mobility of students is supported by transparent accreditation practices. Concluding a Learning Agreement, as defined in the ECTS Users Guide, is recommended.

Article 5 Good scientific practice

- (1) TU Berlin promotes good scientific practice in learning and teaching.
- (2) The rules of good scientific practice are communicated at the start of the course (for example within the scope of an introductory course or other teaching units) and continually practiced.

III. Quality Assurance

Article 6 Student guidance

- (1) Student guidance includes general student guidance and specialist guidance pursuant to Article 28 of BerlHG.
- (2) General student guidance and information is offered to candidates and students, including for overlapping issues. This includes educational and psychological guidance, information on inclusion of students with children, dependents requiring care, disabilities and/or chronic diseases and course financing and advice on relevant provision of guidance. The Career Service advises students on the transition to professional life and professional independence. The International Office is under an obligation to provide guidance to foreign students.
- (3) Specialist guidance provided by each faculty supports students in their studies through course-related guidance. Specialist counseling tasks include providing guidance to students on sensible planning and implementation of their studies, in accordance with their individual skills and career expectations within the scope of course regulations and the range of teaching modules, and where possible providing support for the completion of studies. Such tasks include regular introductory events and sound advice on interdisciplinary studies.

- (4) In order to coordinate tasks, the faculty council, pursuant to Articles 28 and 73 of BerlHG, employs a professor as specialist counseling representative, supported by student assistants. The faculty council may make use of other members of the faculty for specialist guidance.
- (5) Further specific advice is provided on individual subject areas by the professor of the relevant specialism.
- (6) The faculty also releases detailed informational material for information and guidance on study programs, and in courses with a foreign language (as a compulsory option), in the relevant foreign languages.
- (7) Introductory events are offered to first-year students at the start of the first semester. Teaching units designed for this purpose may be cancelled in the first semester.

Article 7 Mentoring program

- (1) Mentoring programs serve to ensure a positive exchange between students and lecturers and to improve individual support. Faculties should set up and implement mentoring programs for study programs. Such mentoring programs can be provided in different forms (for example individual, group, tandem, on-line mentoring or shadowing) for a variety of target groups (for example introductory, foundation, consolidation or final degree phase) and with different objectives (e.g. course objectives, social priorities, interdisciplinary exchange). The criteria for mentors or mentees (for example linking to a course, possible restrictions on participation) are defined in the relevant program.
- (2) A mentoring program is described in accordance with paragraph (1), decided on by the faculty council, and published on the associated website for the course. All lecturers are obliged to support the relevant program. Each mentoring program is evaluated.

Article 8 Dean of studies

The dean of studies performs teaching and study-related tasks at the faculty within the dean's over-

all responsibility. In particular he or she is responsible for:

- quality assurance in studies and teaching;
- representation of the faculty towards other members and bodies of the university (Steering Committee, Central University Administration, Academic Senate) in teaching and student matters;
- service agreements with other faculties;
- communication between students and lecturers

Article 9 Course representative

The faculty employs a course representative for each study program within its scope of responsibility, who should hold qualifications in accordance with Article 32 of BerlHG (authorized examiners). If no such person is designated, the tasks are passed onto the dean of studies. His or her tasks include the following:

1. Upon creation or revision of a study program:
 - analysis of the labor market and competitive training;
 - coordination of curriculum development;
 - coordination of skills targets for the study program;
 - capacity planning;
 - examination of feasibility of completion of studies;
 - compilation of course schedules;
 - compilation or revision of course and examination regulations;
 - service agreements.
2. Following introduction of the study program:
 - regular holding of teaching conferences;
 - cooperation in (re-)accreditation;
 - planning of teaching units;
 - guarantee of qualification objectives and feasibility of studies;
 - identification and elimination of study bottlenecks;
 - coordination of module contents;
 - initiatives for curriculum revision;
 - service agreements.

Article 10 Teaching unit evaluation

Students give regular class criticism for teaching units at TU Berlin, which largely serves as a feed-

back instrument for lecturers to continually improve their teaching. Results should be discussed with students. The evaluation statutes of TU Berlin provide further details hereof.

Article 11 Course review

Each course is evaluated in a cycle of four to eight years in terms of:

- implementation of skills targets;
- feasibility of completion of studies;
- and additional criteria.

Results are published. Further development needs are recorded within the scope of a faculty agreement between the Steering Committee and the faculties.

Article 12 Teaching conference

A teaching conference – publicly accessible within the university – shall be convened for each study program at least once a year, to which academic staff and student representatives for the course are invited. Relevant persons in charge of other faculties' services shall be invited. Additional participants may also be invited. The teaching conference is chaired by the course representative and includes the following tasks:

- discussion of results of teaching unit evaluation;
- discussion of current examination statistics;
- exchange of experiences in the current academic year;
- coordination and updating of teaching content;
- discussion and analysis of other relevant details (e.g. alumni questions, statistics on progress of studies, duration of studies, position of graduates).

Article 13 Didactic approach in further education

Public servants who perform full-time teaching tasks are under an obligation to provide continuing education and further training in a didactic approach and are supported by Technische Universität Berlin.

Article 14 Conflict management

- (1) Within the framework of conflict and complaint management, the university guarantees to search for solutions to conflicts and

complaints within a transparent, non-administrative procedure, which is as acceptable as possible to all participants.

- (2) In case of complaints being lodged, all complainants receive confirmation of receipt of the complaint and, on request, feedback on the processing status of the event, or implementation, within one working day. The university shall identify appropriate complaints offices.
- (3) Within the scope of conflict management, all existing central and decentralized advisory bodies are centrally identified. Forms of conflict handling are stipulated in mentoring programs. Recommendations on conflict resolution are made within the framework of guidelines, such as the guideline on protection from sexual discrimination, harassment and violence.

IV. Admission, Enrollment, Accreditation, Student Concerns

Article 15 Admission

- (1) Where restrictions on admission are laid down for study programs, admission procedures shall be conducted for such courses. Procedures shall comply with the statutory provisions, the selection statutes of Technische Universität Berlin, the doctorate regulations and relevant course-specific admission rules. Applicants may only take part in admission procedures if they make due applications on time, including all necessary documents, and fulfill general and subject-specific entry requirements.
- (2) Applicants from abroad who are not on equal terms with German nationals require authorization to enroll, in respect of which decisions are taken by the responsible body of the Central University Administration. The equivalence of international higher education entrance qualifications must be established, unless they have already acquired higher education entrance qualifications under German law. The basis for an assessment of equivalence is formed by the evaluation recom-

mendations of the Central Office for Foreign Education. Responsibility for decisions on the evaluation of international educational qualifications for the purpose of entrance into higher education in Berlin, including subject linking and clarification of any doubts with the Central Office for Foreign Education, lies with the competent senate authority for higher education institutions (Article 61 of the Schools Act for the State of Berlin). Moreover, international applicants shall demonstrate a working knowledge of the German language in accordance with the effective resolution of the Standing Conference of Ministers of Education and Cultural Affairs on the admission of international applicants with foreign education certificates to study at German higher education institutions, allowing them to follow the classes. Further details on verification are specified by the responsible body of the Central University Administration.

- (3) The necessary language skills for international study programs shall be defined in subject-specific regulations.
- (4) Qualifications pursuant to Article 7 and Article 7a of the Berlin Higher Education Admissions Act are established in compliance with the relevant resolution of the Standing Conference of Ministers of Education and Cultural Affairs on the conversion procedure of international school grades for higher education admission in Germany.
- (5) International applicants intending to become doctorates, who write their dissertations – where permitted by the doctorate regulations – in a language other than German or English, and wish to take an oral exam, must demonstrate a working knowledge of this language. The doctorate regulations set out further details hereof. However, if these international applicants still have to perform coursework or exam assignments as a precondition for admission to the doctoral procedure, they must also demonstrate a working knowledge of the German language. The responsible body of the Central University Administration specifies further details on verification.

Article 16 Enrollment

- (1) Applicants shall be enrolled if they fulfill the entrance requirements pursuant to Articles 10–13 of BerlHG, and:
 1. demonstrate, by their own declaration, that they have enrolled in the selected course at any other higher education institution within the scope of application of the Framework Act for Higher Education, or a higher education institution of a Member State of the European Union or other signatory to the Agreement on the European Economic Area;
 2. demonstrate, by their own declaration, that they have not definitively provided the prescribed proof of results in the selected course, or definitively passed prescribed exams, at any other higher education institution within the scope of application of the Framework Act for Higher Education, or a higher education institution of a Member State of the European Union or other signatory to the Agreement on the European Economic Area, where these are a compulsory component of the study program at TU Berlin;
 3. demonstrate, based on statutory provisions, that they are covered by health insurance;
 4. have paid fees and contributions, including social contributions to the student union, contributions to the student body, and charges for public transport passes;
 5. have been admitted to a restricted admission course or have applied to enroll for an unrestricted admission course;
 6. in the event of enrollment as a doctoral student, the doctoral candidate application has been accepted by the responsible faculty.
- (2) Enrollment is generally implemented for a study program, which leads to graduation with professional certification.
- (3) Enrollment is also possible for an additional course. However, enrollment for more than one restricted admission study program is only possible where this is reasonable in

terms of the study goal and other students are not thereby excluded from the first degree.

- (4) Applicants may also be enrolled for a fixed term, according to Article 17.
- (5) Enrollment establishes the right to use the facilities of the university under the applicable provisions (Article 9(1) of BerlHG); this includes the right to attend teaching units on other courses (see Article 36) and, in accordance with the examination regulations, to take exams on other courses where proof of results stipulated in the associated examination regulations is provided.
- (6) The obligation to pay fees and contributions, including social contributions to the student union, is not applicable if such fees have already been paid to another higher education institution in Berlin or Brandenburg, where enrollment has been carried out. Appropriate proof shall be provided.

Article 17 Fixed-term enrollment

- (1) Applicants from abroad, whose university entrance qualifications do not qualify them for direct course admission (no equivalence, as defined in Article 15(2) hereof), can be enrolled on a preparatory course for a fixed term, in accordance with the applicable administrative provisions, in order to prepare for the admission examination by attending a preparatory course. The fixed term generally amounts to two semesters and, in the event of additional attendance at a German preparatory course, three semesters. There is no allocation to a study program.
- (2) Foreign applicants with equivalent university entrance qualifications, pursuant to Article 15(1), but without a working knowledge of German, may be enrolled for a fixed term to attend courses in German as a foreign language, usually for two semesters, in order to prepare for the German admission exam. Enrollment is limited to a fixed term of one semester for applicants under clause 1, in order to attend introductory programs for the preparatory course. There is no allocation to

a study program. Participation in specialist studies is not permitted during this enrollment procedure. The responsible body of the Central University Administration shall set out further details hereof, in consultation with the Academic Senate.

- (3) International applicants wishing to study within an exchange program between Technische Universität Berlin and their home university, or within the scope of usual study visits abroad, can be enrolled for a maximum of two semesters without a specific admissions procedure. In exceptional cases, on application to the responsible body of the Central University Administration, extension by an additional two semesters is possible. A final examination can only be taken during such studies if permitted in specific regulations.
- (4) Applicants may be enrolled for a fixed term on study programs which do not result in an initial professional qualification.

Article 18 Enrollment procedure

- (1) Applications for enrollment shall be forwarded in writing to the responsible body of the Central University Administration.
- (2) Applications for enrollment on unrestricted admission courses shall be made by April 1 of each year for the summer semester and by October 1 for the winter semester on a form designated by the responsible body of the Central University Administration, and enrollment generally conducted within two weeks of application. In justified cases, the responsible body of the Central University Administration may ignore the above deadlines. The deadline shall not be effective if the application for enrollment is made by doctoral students. The responsible body of the Central University Administration decides on applications. All further details on the doctorate, in particular on application as a doctoral candidate, are laid down in the doctoral regulations of Technische Universität Berlin. The deadline for enrollment on a restricted admission course is included in the admission letter.

- (3) Certificates and declarations necessary for enrollment should be attached to the enrollment application; such documents shall be available at the latest by the time of enrollment. A candidate can be enrolled for one semester, subject to withdrawal, if he or she fulfils the conditions for enrollment, but is unable to verify this on time, for reasons not attributable to him or her. If a statement appears dubious, proof cannot be provided in the specified way, or there are doubts about the accuracy or authenticity of submitted documents, the responsible body of the Central University Administration shall decide on the appropriate form of proof.
- (4) Enrollment is conducted for the first semester. Notwithstanding this fact, the provisions of the Berlin Higher Education Act (BerlHG), the Higher Education Admissions Act (BerlHZG), the Higher Education Admissions Regulation (BerlHZVO), and Article 20 hereof shall apply to higher semesters.
- (5) Enrollment is completed by delivery or dispatch of the enrollment certificate.

Article 19 Enrollment of professionally qualified candidates

- (1) Applications by students with professional qualifications for admission to and enrollment on a course at Technische Universität Berlin, pursuant to Article 11 of BerlHG, shall be sent to the responsible body of the Central University Administration.
- (2) The following certified evidence and declarations, which are intended to verify general university entrance qualifications (Article 11(1) of BerlHG), shall be attached to applications from students with professional qualifications:
 1. proof of advanced education based on the provisions of handicrafts regulations (e.g. master craftsman's exam), the Vocational Training Act, or comparable provisions under federal or state law (Article 11 (1) subsection 1 of BerlHG); or
 2. proof of vocational training completed at a state or state-approved vocational school,

- as defined in Article 34 of the Schools Act, or comparable training in another federal state (Article 11 (1) subsection 2 of BerlHG); or
3. proof of acquisition of a qualification comparable to further education designated under subsection 1, as defined in the Seaman's Act (Article 11 (1) subsection 3 of BerlHG); or
 4. proof of acquisition of a qualification comparable to further education designated under subsection 1 as a result of a continuing education course, governed by state law, for healthcare professions and in the social care or educational sectors (Article 11 (1) subsection 4 of BerlHG).
- (3) The following certificates and declarations shall be attached to applications from students with professional qualifications, containing a request for study, which includes a similar subject to their professional qualifications and is intended to verify subject-related university entrance qualifications (Article 11(2) of BerlHG):
1. proof of completed vocational training lasting at least two years, governed by federal or state law, in a profession that is closely related to the targeted study program (Article 11 (2) subsection 1 of BerlHG); and
 2. proof of at least three years' employment in the studied profession (Article 11 (2) subsection 2 of BerlHG).
- (4) Certification of a successful admission examination to Technische Universität Berlin for the feasibility of studies shall be attached to applications from students with professional qualifications, according to paragraph (3), containing a request for study in a subject outside their professional qualification (Article 11 (3) of BerlHG).
- (5) The deadline for submitting applications is set as July 15 for the winter semester and January 15 for the summer semester (time limit).
- (6) Applications submitted in full and on time, which meet the requirements of Article 11 (1) of BerlHG, shall be included in the procedure for awarding places in a pre-allocated quota, according to Article 6(2) of the Berlin Higher Education Admissions Regulation.
- (7) Applications submitted in full and on time, which meet the requirements of Article 11 (2) of BerlHG, shall be forwarded to the responsible examination board by the responsible body of the Central University Administration. The examination board shall decide whether this constitutes an appropriate professional qualification for the targeted studies, or whether an entrance exam should be taken, pursuant to Article 11 (3) of BerlHG, examining the feasibility of the applicant completing studies. The statutes set out further details on the entrance examination. The reasoned decision of the examination board shall be communicated in writing to the responsible body of the Central University Administration, which then decides on admission within the scope of the due admissions procedure. Admission is implemented within the quota set as the pre-allocated quota in the admissions procedure (QuoSa) set out in the applicable statutes.
- (8) If the number of applicants within the pre-allocated quota under the Berlin Higher Education Admissions Regulation exceed the available places, places are awarded according to Article 8a of the Berlin Higher Education Admissions Act.

Article 20 Crediting of study periods, accreditation of coursework and exam results, and vocational activities

- (1) Periods of study, coursework and exam results in the same study program at a German higher education institution are accredited by the examination board in case of equivalence. Failed examination results shall be credited with regard to the repeatability of exam results. In case of a change of university, demotion to a lower semester is excluded.
- (2) Periods of study, coursework and exam results performed at higher education institutions beyond the scope of application of the Framework Act for Higher Education shall be accred-

ited on request, in accordance with the equivalence agreements approved by the Standing Conference of Ministers of Education and Cultural Affairs and the Conference of University Rectors; if there are no such agreements, the responsible examination board shall decide, in consultation with the responsible body of the Central University Administration. Otherwise, in case of doubts about equivalence, a hearing may be given to the Central Office for Foreign Education. If the student has eligibility confirmed by the examination board in the form of a “Learning Agreement” before the start of the semester abroad, the results provided at other international higher education institutions are credited.

- (3) Periods of study and coursework and exam results otherwise provided with equivalent content and scope are accredited as coursework and exam results by the examination board if there are no major differences in terms of skills acquired. There is no schematic comparison, but rather an overall assessment is made. Failed exams are credited with regard to the repeatability of exam results. Certified equivalent skills and abilities (qualifications) acquired outside a higher education institution shall credit up to half the points designated for the course by the examination board.
- (4) Applications for accreditation of coursework and exam results should be made by the end of the second semester after admission to studies at TU Berlin. Accreditation of commenced examination procedures is excluded.
- (5) If the equivalence of other coursework and exam results or qualifications under paragraphs (2) and (3) cannot be established, the application shall be informed thereof in writing and the examination board decides whether a supplementary exam is to be taken. Equivalence agreements approved by the Standing Conference of Ministers of Education and Cultural Affairs and the Conference of University Rectors, and agreements reached within higher education partnerships shall be observed. Supplementary exams sole-

ly serve to clarify whether the student has the minimum required knowledge. If the supplementary exam is assessed as “pass”, the results are accredited. If the supplementary exam is assessed as “fail”, the results shall be deposited as regular module exams. The provisions of Articles 42–46 apply accordingly to enrollment for supplementary exams.

- (6) Grades shall be credited – where grading systems are comparable – and included in the calculation of overall grade in accordance with the examination regulations and the eligibility of international educational qualifications (“anabin”) and the modified Bavarian formula. If grading systems are not comparable, the comment “pass” shall be recorded.
- (7) The applicant is obliged to provide sufficient information on the result to be credited. The burden of proof of an application failing to fulfill the requirements lies with the body conducting the accreditation procedure. If agreements and arrangements between the Federal Republic of Germany and other countries on equivalence in the higher education sector (equivalence agreements) benefit students from foreign states at variance from paragraphs (1)–(6), the provisions of the equivalence agreement shall take precedence.

Article 21 “Studieren ab 16” (“Study from age 16”)

Pupils in upper secondary schools (starting from 10th grade) may attend selected teaching units at TU Berlin as early students, with the written consent of their school, within the TU Berlin program “Study from age 16”. In exceptional cases, pupils from below grade 10 are also allowed to take part. Applications shall be made to the responsible body of the Central University Administration by the start of the relevant semester. There is no right to inclusion in the program. Participation does not constitute membership of Technische Universität Berlin, and is free of charge. Coursework and exam results provided within the “Study from age 16” program, upon application, shall be credited to comparable coursework and exam results for later studies at Technische Universität Berlin. Article 20 (1) clause 2 is not applicable.

Article 22 Temporary withdrawal

(1) Students wishing to interrupt a course at Technische Universität Berlin in the following semester may make an application for temporary withdrawal on important grounds, with relevant evidence at the earliest upon re-registration and at the latest four weeks after the start of the semester. Important grounds for temporary withdrawal include:

1. studies abroad;
2. completion of internship;
3. personal illness;
4. birth of a child;
5. illness/care for a child of person requiring supervision;
6. supervision of a child within the first six years, for a maximum of three years.

Temporary withdrawal is generally issued for one semester, but for a maximum of four semesters. In justified cases, the upper limit may be exceeded. The decision is taken by the responsible body of the Central University Administration. A sabbatical semester is not deemed a regular semester.

- (2) By way of exception, temporary withdrawal may be granted for applications filed late if the reason for temporary withdrawal only occurs after the deadline has expired. Course-work results until this date are accredited.
- (3) Temporary withdrawal should not be issued for the first semester.
- (4) During the period of temporary withdrawal, the right to attend classes is suspended, while other rights, including the right to take exams outside classes, continue.
- (5) In case of temporary withdrawal pursuant to paragraph (1) subsection 6 hereof, students are entitled to attend classes for a period of up to six semesters. Attended classes shall not exceed the demands of students not subject to temporary withdrawal. The same applies to students subject to temporary withdrawal under paragraph (1) subsection 3 hereof, who should be allowed to gradually reintegrate into studies, even during a sabbatical semester.

Article 23 Part-time studies

- (1) Courses studied at TU Berlin are usually full-time. Part-time studies are possible if grounds arise in accordance with Article 22(4) of the Berlin Higher Education Act.
- (2) In part-time studies, half the credit points or results stipulated in full-time studies, based on the examination regulations for the relevant course, can usually be acquired per semester. Credit points acquired by resits are disregarded.
- (3) Application for part-time studies shall be made in writing – stating the reasons – to the responsible body of the Central University Administration, usually by the re-registration deadline for the following semester. Relevant evidence shall be attached to the application.
- (4) Unless the student has designated a shorter period in the application or in the course of re-registration, studies shall be conducted part-time, where the requirements are in place under Article 22(4) of BerlHG. Part-time studies are always carried out for at least one semester. The student shall inform TU Berlin within the scope of re-registration if the reasons for part-time studies no longer exist.
- (5) During part-time studies, students are granted separate deadlines with reference to their personal situation, in particular for theses. Extended periods shall not be longer than twice the regular deadline.
- (6) Part-time students have the same status at the university as full-time students. Fees and contributions shall be paid in full.
- (7) Semesters in part-time studies are included as half semesters and full university semesters.

Article 24 Re-registration

- (1) Students who want to stay enrolled for the following semester shall re-register.
- (2) Invitations to re-register are sent to students. Students who have not received the documents are not released from the re-registration obligation, pursuant to paragraph (1). Re-registration for a semester shall be duly

implemented by the end of the lecture period in the previous semester. Subsequently, late re-registrations are only permitted if a late payment fine is paid by the end of the current semester. Fees paid for re-registration for the upcoming semester shall be refunded if a student's affiliation ends before the start of the semester for which re-registration is conducted. The re-registration deadline may be amended for a specific date by the responsible body of the Central University Administration, with the consent of the Academic Senate.

- (3) Re-registration includes:
 1. existence of health insurance under the statutory provisions;
 2. payment of due fees and contributions;
 3. individually provided evidence within the scope of re-registration. Relevant information includes the invitation to re-register;
 4. where appropriate a declaration amending the option to cooperate in the academic self-administration and the student body of Technische Universität Berlin, or exercising the right vote at a faculty or department;
 5. notification of part-time students if the reason for part-time studies no longer exists.
- (4) Re-registration is confirmed to the student by sending course documents for the new semester.
- (5) Students are obliged to advise the responsible body of the Central University Administration immediately of any change of name, semester or home address, or the loss of a student ID card.

Article 25 Extramural students

- (1) Students at another higher education institution who want to attend classes at Technische Universität Berlin may be admitted as extramural students upon request. Extramural students are not affiliated to Technische Universität Berlin.
- (2) Applications shall be made in writing at the start of the lecture period for the relevant se-

mester to the responsible body of the Central University Administration. If a class is held in semester breaks, applications for admission can also be made at the start of the class. The consent of the class lecturer and the dean of studies of the (service-providing) faculty shall be attached to the application.

- (3) Admission is conducted for the relevant semester. Certification of admission is issued accordingly.
- (4) Extramural students shall only attend classes with a limited number of participants if students of Technische Universität Berlin are not thereby excluded.
- (5) An extramural student may acquire results from attended classes.
- (6) Extramural students may take subject exams. Examination regulations for study programs from which teaching units have been selected shall apply to subject exams. No right exists to take part in subject exams.
- (7) Equivalence of enrolled students and extramural students may be agreed with other university-level institutions for courses and parts of courses upon admission to classes and subject exams.

Article 26 Guest students

- (1) Persons wishing to attend individual classes without being enrolled at a higher education institution may be admitted as guest students upon request, with the consent of the class lecturer and the dean of studies for the (service-providing) faculty. Guest students are not affiliated to Technische Universität Berlin.
- (2) Applications shall be made in writing at the start of the lecture period for the relevant semester to the responsible body of the Central University Administration. If a class is held during the break, applications can also be made for admission at the start of the class. The consent of the class lecturer and the dean of studies for the (service-providing) faculty shall be attached to the application.
- (3) Admission is conducted for classes in the relevant semester. The total number of classes

should not exceed six hours per week. Attendance at classes is certified on a guest student card handed out to guest students.

- (4) Guest students may only be admitted to classes by special permission where students of Technische Universität Berlin or extramural students are not excluded as a result.
- (5) A guest student may receive certification of attendance in classes and of successful participation if results can be acquired. Guest students are not entitled to take examinations. Certification of attendance does not constitute proof of exam results.

Article 27 Announcement of deadlines

Study-related deadlines, in particular deadlines within which applications are made for admission, enrollment, re-registration, changing courses, temporary withdrawal, part-time studies, de-enrollment or admission as an extramural or guest student, are announced in an appropriate way by the responsible body of the Central University Administration.

Article 28 Electronic mailbox and learning platform

- (1) Students and lecturers are obliged to regularly check the mailbox for their email address, as provided by TU Berlin. TU Berlin reserves the right to use this email address for all information relevant to studies, in addition to the postal service.
- (2) If lecturers use the university-wide electronic teaching and learning platform in their work, important information can be stored there for each module. Students are obliged to regularly check for information on the platform.

Article 29 Changing courses

- (1) Applications to change courses without restricted admission shall be made by the start of the following semester for a new study program. If an additional qualification is required for the new course, this shall be verified along with the application. Changing a course with restricted admission requires authorization.
- (2) A decision from the responsible examination board for the new course about accredited

coursework and exam results and the resultant semester grade shall be submitted with the application. The responsible body of the Central University Administration may dispense with such a decision if no coursework or exam results have been awarded in previous studies.

- (3) Students wishing to be classified in a higher semester by virtue of a placement exam, according to Article 23a (3) of BerlHG, must also submit the result of the placement exam with the application to change courses.

Article 30 Student exchanges

- (1) If admission is restricted for a study program and/or for certain semesters, a student exchange may take place with students from another German higher education institution, where the course and semester coincide and both persons are enrolled under unrestricted conditions. Surrender of the student place by the admitted candidate and an application for de-enrollment of the student replace a positive selection decision for a candidate aiming to study at Technische Universität Berlin. Other admission and enrollment requirements are not affected.
- (2) Applications for re-enrollment in case of changing higher education institutions shall be made to the other higher education institution immediately after de-enrollment within the deadline in accordance with Article 18 (2); de-enrollment by the previously attended university shall be verified by a copy of the de-enrollment letter from the previous higher education institution at the latest upon enrollment at TU Berlin.

Article 31 De-enrollment

- (1) Students' affiliation to Technische Universität Berlin ends upon de-enrollment, or – in case of fixed-term enrollment – upon expiry of the deadline. If de-enrollment takes effect within six weeks of the start of the lecture period, the relevant semester is not included; however, results obtained in this period retain their validity.

- (2) Students can apply for de-enrollment from the responsible body of the Central University Administration. The date in the current semester on which de-enrollment should take effect shall be indicated here. The earliest possible effective date is the day on which the application is received by the responsible body of the Central University Administration.
- (3) Students are officially de-enrolled, according to Article 15 clause 3 subsection 4 of BerlHG, if they have passed the final exam, or definitively failed a prescribed exam, or if they have failed to pay, or pay in full, fees and contributions pursuant to Article 15 clause 3 subsection 3 of BerlHG, including social contributions to the student union, contributions to the student body, and, in the event of an appropriate agreement, contributions to public transport passes, despite a written warning and threat of de-enrollment. The completion of exams, in the sense of this provision, is the day on which the student is advised that the transcript is ready for collection. De-enrollment takes effect two months later. If the student applies to enroll for studies on a different course with professional qualifications or for extension studies within this deadline, de-enrollment only takes effect upon rejection of such an application.
- (4) A written letter is issued about the de-enrollment.
- (5) An existing right to admission to exams upon de-enrollment is retained in accordance with the examination regulations.
- (6) De-enrollment as a result of an imposed regulatory measure is unaffected, according to Article 16 of BerlHG.

V. Study Program Organization

Article 32 Study programs

Study programs are divided into modules. They consist of compulsory modules, compulsory optional modules and optional modules. In compulsory modules the core skills of the course are communicated, compulsory optional modules al-

low for individual priorities to be set, and optional modules serve to provide broader orientation within academic training. Standard-format course descriptions in table form shall be attached to the course and examination regulations as an Annex.

Article 33 Modules

- (1) Modules are study units which are defined in terms of themes and timing and have specified learning objectives. The learning objectives describe the knowledge, skills and abilities that graduates should have. Modules are completed in parallel to studies with no more than one module exam. A module examination establishes the extent to which students' learning outcomes conform to the learning objectives. The form and content of exams should therefore be aligned to learning objectives. The form, scope and weighting of the module exam shall be documented in the module description.
- (2) Modules generally consist of several teaching units and have a fixed volume, which is measured in credit points based on the European Credit Transfer and Accumulation System (ECTS). One credit point is equivalent to total working time of 30 hours. Modules at TU Berlin are usually awarded 6, 9 or 12 credit points. Modules may include compulsory optional parts, unless learning objectives are affected by the individual option. The same teaching unit cannot be credited on several occasions. Modules cover one or a maximum of two semesters. Any deviations shall be substantiated.
- (3) The module description is compiled based on the standard rules of TU Berlin. The name of the module, the amount of credit points to be acquired, form of examination and possible grading of the module, as well as affiliation to module groups shall be documented in a module list within subject-specific examination regulations. Each module shall be given a meaningful German and English name. An English module description is also compiled for English-language modules.
- (4) Modules are decided on by the responsible

faculty council. The faculty providing the course decides on non-editorial changes to model descriptions, with the involvement of the relevant training committee. Furthermore, a responsible faculty council may include additional modules in the compulsory optional areas of the module list, which make a particular contribution to achieving the study objectives of the relevant course regulations. Module changes of a non-editorial type, which are intended to take effect in the next semester, must be presented to the responsible body of the Central University Administration by the end of the lecture period for the previous semester.

- (5) In case of modules offered as service features, the decision about module design lies with the service-providing faculty, with consideration for the needs of the recipient faculty.

Article 34 Module supervisors

- (1) A module supervisor is appointed for each module. The module supervisor must be in full-time employment at Technische Universität Berlin and should generally be a university professor. Permanently employed lecturing personnel and lecturers with special tasks may also be module supervisors within the scope of independent learning.
- (2) The faculty appoints the module supervisor, who shall be an authorized examiner, according to Article 42 (1). The module supervisor monitors and supervises teaching and examinations of the relevant module. He or she is responsible for the content of the module description, including any necessary changes, and is available to facilities and persons participating in the module as a contact person. The module supervisor is responsible for calculating the module grade and conveying this to the responsible body of the Central University Administration.

Article 35 Forms of teaching units

- (1) Achievement of the relevant learning outcomes is supported by different forms of teaching and learning. In particular the fol-

lowing types of teaching units are offered at TU Berlin, which are guided by classification of the effective capacity provision:

1. Lecture ("VL")
In lectures, syllabus contents are presented by lecturers in the form of regular presentations, and where possible supported by relevant teaching documents and use of multimedia tools. They serve to communicate facts and methods.
2. Exercise ("UE")
Exercises serve to supplement and consolidate the material conveyed in lectures, based on appropriate examples. At the same time students should learn to apply knowledge and methods conveyed in lectures through the processing of tasks, in exemplary form. Short interactions between lecturers and students are common.
3. Tutorial/methodical exercise ("TUT")
Tutorials or methodical exercises serve to supplement and consolidate material conveyed in lectures and practical training, and to prepare for exercise assignments in small groups. These sessions may be held by student employees under the guidance of responsible lecturers.
4. Integrated classroom learning ("IV")
In integrated classroom learning, the different forms of teaching units are exchanged without fixed timing, such that theoretical communication of materials and practical application are carried out within the classroom.
5. Seminar ("SE") and advanced seminar ("HS")
The fundamental characteristics of seminars (SE) are active contributions of students to the class. Furthermore, advanced seminars (HS) are characterized by intense interaction between lecturers and students and the working out of largely new problems using scientific methods, alternating between presentation and discussion. Students thereby make longer contributions independently, present solutions and give talks on internal or external papers.

6. Colloquium (“CO”)

The content of a colloquium is a scientific discussion in relation to a specific identification of problems. Moreover, it serves to supplement the teaching program through an exchange of experiences with representatives from different social areas. The colloquium also serves to present outcomes of student papers and scientific discussion with other students and lecturers.

7. Practical training (“PR”)

Practical training involves experimental exercises in which students implement the theoretical knowledge acquired in other classes in concrete practical examples, and can obtain findings through independent working. They are characterized by largely independent (group) work of students, acquisition and consolidation of knowledge of academic through practical or experimental tasks. Lecturers provide guidance to students, while students perform observations, work assignments and tests, apply their knowledge and draw scientific conclusions.

8. Project (“PJ”)

Projects include interdisciplinary or subject-based planning and/or implementation processes, which are processed in cooperative forms of work under the guidance of lecturers, and are presented within a seminar paper with subsequent scientific discussion. Largely independent and self-organized (group) student work is characteristic.

9. Field trip (“EX”)

Field trips are object lessons held outside the university. They primarily serve to supplement theoretically conveyed knowledge and offer insights into later fields of activity.

10. Course (“KU”)

Courses serve the practice and training of practical skills.

11. E-learning proposals

E-learning relates to teaching forms in which teaching and learning material is

exclusively provided and used through electronic media. Interaction between lecturers and students can also be carried out electronically. E-learning proposals usually serve to communicate factual and methodological knowledge and can be combined with conventional teaching forms (blended learning).

- (2) All teaching units essentially require associated independent study. Specific coursework and examination regulations may provide for other forms of teaching units in case of appropriate reasoning.

Article 36 Announcement, admission and allocation of teaching units

- (1) All teaching units shall be publicly announced at the university in the course prospectus.
- (2) Attendance at a teaching unit requires a special announcement and permission if:
 1. a limited number of participants is stipulated due to its character, pursuant to the relevant course regulations;
 2. a specific level of knowledge or specific skills are assumed for due participation, pursuant to the relevant course regulations;
 3. the number of spaces is limited for geographical or other material reasons.
- (3) If there are more admission applications than places available, students whose course prescribes the teaching unit as a compulsory subject are admitted first, students whose course prescribes the teaching unit as a compulsory optional subject are admitted second, students who want to introduce the teaching unit into their optional area are admitted in third place, and students who want to introduce the teaching unit as an additional course are admitted in fourth place. The students are summarized into ranking classes based on semesters.
- (4) The first ranking class is formed by those studying in the semester for which the unit is scheduled; alternatively, the faculty council in the faculty responsible for the course decides which semester the unit should be assigned

to. Priority should be given to students who have demonstrably not been admitted to this unit in previous semesters, although they fulfilled the requirements under clause 1. Students who were unable to complete the course in the scheduled semester, based on the course regulations, as a result of their disability or chronic disease, shall also be given priority for admission to units with restricted participation. The same applies to students with children requiring supervision, or dependents to be cared for.

- (5) The second ranking class is formed by those who have completed one semester less than scheduled. The examination board, and in case of study programs or parts of study programs with state-approved final exams the faculty representative may assign students to another ranking class on request in cases of hardship. If not all members of a ranking class can be admitted, the decision is taken by drawing lots.
- (6) At the request of students, admission may be extended if the module exam forming part of the teaching unit has to be repeated.

Article 37 Additional modules

- (1) Student can be examined not only in the modules prescribed by the relevant examination regulations, but also in other modules offered at Technische Universität Berlin and other universities and equivalent higher education institutions within the scope of the Framework Act for Higher Education, as well as at colleges and universities abroad, accredited as equivalent (additional modules).
- (2) The results of examinations under paragraph (1) are entered on the certificate at the student's request, but not allowed for when calculating the overall grade, according to Article 47. Enrollment for exams in an additional module shall take place at the latest before completion of the last prescribed examination. The volume of additional modules shall not exceed the maximum limit of 60 credit points, based on ECTS, in the relevant study program. The absence of additional modules

has no impact on graduation in the actual course.

- (3) Modules already completed before admission to studies at TU are not accredited as additional modules.

VI. Examination Organization

Article 38 Admission requirements and procedures

Before the first examination, an application for admission to the Bachelor's or Masters exam shall be made to the responsible body of the Central University Administration. The following documents shall be attached to the application:

1. a declaration of knowledge of the relevant examination regulations and course regulations;
2. a declaration on whether the applicant has already been failed or definitively failed a final examination on the same course or a related course at a university-level institution within the scope of the Framework Act for Higher Education, or whether an ongoing exam procedure has not yet been completed;
3. where appropriate, confirmations of accreditation pursuant to Article 20.

If the necessary documents cannot be produced in the prescribed manner through no fault of the applicant, the relevant proof shall be provided in another appropriate manner. The examination board shall decide on recognition thereof.

Article 39 Examinations, enrollment for exams, types of examination

- (1) Examinations for a Bachelor's or Master's degree are conducted in the following ways: as a thesis (Article 46) and standard module exams alongside the course in the form of an oral exam (Article 43), written exam (Article 44) and portfolio examination (Article 45). Especially in the case of a module examination, students demonstrate whether they have achieved the learning outcomes for the module, by identifying typical problems and finding paths to a solution within a limited timescale and with limited tools. The contents of a module exam are geared towards the skills to be communicated. Examination

regulations may provide for additional types of examination. With the consent of the examiner, it is also possible to enroll for an examination in the event of incomplete advance results.

- (2) Enrollment is necessary in order to take exams. Exam enrollments are conducted at the responsible body of the Central University Administration, usually via an electronic enrollment system. Enrollment for a second resit and for these essentially takes place in person at the responsible body of the Central University Administration. In order to enroll for an exam, the result to be provided in advance shall be verified in accordance with the relevant module description.
- (3) The enrollment period for an exam usually commences from April 15 at the earliest in the summer semester, and from no earlier than October 15 in the winter semester, and ends:
 - with the oral exam, on the date set by the examiner;
 - with the written exam, at the latest one week before the specified exam date; and
 - with portfolio examinations, usually by May 31 for the summer semester and November 30 for the winter semester.

The enrollment period is announced at the start of teaching units, in the relevant module.

- (4) Module exams are usually taken at the next regular examination opportunity for a module. Once this opportunity has expired, the module exam shall be taken according to the conditions for the current module.
- (5) Upon completion of the first examination attempt in a module from the compulsory optional or optional area, this becomes part of the exam in the relevant course.
- (6) Examination periods for module final exams are decided on by the faculty council and made publicly available at the university. The designated bodies may assign authority to the examination boards. There are two examination periods for written exams in each semester. The first examination period should cover

the first three weeks of the semester break, and the second examination period the last three weeks of the semester break.

- (7) The examination period for oral exams shall be disclosed by the examiners in good time, but at the latest four weeks before the examination date. The exam date for the written exam shall be disclosed within 14 days of the start of the module. In case of one-semester modules, the date of provision of individual coursework results in portfolio examinations is announced within 14 days of the start of the module.

In case of exams extending over several semesters, dates are announced within the first 14 days of the semester in which coursework results are to be provided.

Time overlaps of different exams in the same study program should be excluded where possible. Deadlines also apply to the disclosure of dates for resits, according to Article 49.

- (8) In specially justified individual cases, the responsible examination board, at the request of the examiner, may allow a change of exam type or amendment to individual components of portfolio examinations pursuant to Article 45. This shall be communicated to the candidate immediately before providing the first coursework result relevant to for evaluation, or at the latest four weeks before the exam date.
- (9) If the necessary results for admission to an exam type demonstrably exist, an exam may be taken prior to expiry of the deadline set for notification. The examination board allows the candidate to file equivalent results in another form, at another location or another time, if the candidate, on important grounds, is unable to file an exam or coursework result completely or partly in the prescribed form. The important grounds shall be verified by submitting a medical certificate, for example.
- (10) The thesis shall be evaluated by at least two examiners. Module exams alongside studies may be conducted by one examiner only. In case of oral exams at least one specialist observer is designated. The last possible exam

attempts shall be conducted by at least two authorized examiners. Verbal consultations within the scope of portfolio examinations are conducted by at least one examiner, usually in the presence of a specialist observer. The observer's opinion shall be heard in the procedure before specifying a grade. The subject and significant results should be recorded. The examiner shall be asked about his or her eligibility as an examiner before the exam starts. Eligibility shall be documented by the signature of the examiner.

- (11) The examiner may demand additional filing of evaluation-related coursework and exams results in digital form.

Article 40 Compensation for disadvantages

- (1) Students who are unable to perform a coursework assignment or examination on the scheduled date, within a reasonable period or timeframe, at the designated location, in the designated form or in any other designated way due to disability or chronic disease, pursuant to Article 2(1) of SGB (Social Security Code) IX, pregnancy, care and upbringing of a child up to the age of ten, looking after close relatives in need of care, as defined in the Nursing Care Time Act, or for other good reasons, shall receive compensation for such disadvantages. Such compensation is settled by fixing another appointment, an extended period or timeframe, a different location, a different form, permission for auxiliary tools or persons, or in any other appropriate way. The provided coursework assignment or exam must be equivalent.
- (2) The responsible examination board decides on compensation for disadvantages at the student's request. The student may propose a specific type of compensation. Applications are made in writing, decisions are notified in writing and justified in writing in the event of rejection.

Article 41 Examination board

- (1) The responsible faculty council for the course appoints members to the examination board for the course, which is made up as follows:
 - three academic professors;
 - one academic employee; and
 - one student.
 Members of the examination board and their proxies are appointed by members of the relevant status group in the faculty council. The term of office is two years. The faculty council may appoint a new examination board, containing the majority of its members prior to expiry of the term of office of the examination board.
- (2) The examination board meets at the start of its term of office and selects a chairman from among its academic professors. Academic professors who are not elected as chairman shall be vice-chairmen. Further meetings of the examination board are convened by the chairman as required, or at the request of a member of the examination board, and, except on specific issues, are generally publicized within the university.
- (3) The examination board shall ensure that provisions of the examination regulations are adhered to. In particular, it is responsible for:
 - organizing exams;
 - accrediting periods of study, coursework and exam resits;
 - compiling lists of examiners and observers;
 - decisions on reasonable examination conditions for students with longer or permanent medical disabilities or impairments, which do not allow them to file a coursework or examination assignment completely or partly in the designated form.
 Members of the examination board cannot discharge any responsibilities of the examination board they are personally involved in issues.
- (4) The examination board, by means of a resolution, may assign responsibilities to its chairman, except in matters of principle. The affected party may lodge an appeal against decisions of the chairman. Such appeals shall

be submitted to the board for a decision. The affected party is given the opportunity to comment before the decision.

- (5) Decisions of the examination board are communicated to the responsible body of the Central University Administration by the chairman, in compliance with data privacy, where necessary for its work or where rights of third parties are concerned. The responsible body of the Central University Administration communicates the decision to the affected party.
- (6) Members of the examination board are entitled to attend exams and obtain comprehensive information on compliance with the examination regulations.
- (7) The examination board reports on its activities at the instigation of the faculty council. The board makes suggestions for the reform of coursework, examination and admission regulations.
- (8) Members of the examination board and their proxies are subject to official secrecy. The chairman shall subject members not employed in public service to a confidentiality obligation.
- (9) The examination board advises students in case of conflicts within the course and exams at the faculties, and also acts as an arbitration board.

Article 42 Authorized examiners, observers

- (1) Academic professors, pursuant to Article 32 of BerlHG, are authorized examiners, as are other full-time lecturers entitled to teach independently, and temporary lecturers. Examinations should primarily be conducted by academic professors. Exams alongside studies may also be conducted by the relevant lecturers.
- (2) Subject-specific examination regulations may provide for persons with experience in vocational practice and training to be appointed as examiners when they are not teaching.
- (3) The examination board appoints examiners by allocating a specific module. Only persons who perform teaching activities in the area

related to the exam may be appointed as examiners, unless there are compelling grounds to deviate from this provision.

- (4) Only those persons may be appointed as observers who have graduated from a further education institution and are specialists in the area of the examination. Observers shall ensure the regular exam process and have no decision-making power.
- (5) Article 41 (8) applies accordingly to examiners and observers.

Article 43 Oral exam

- (1) An oral exam is carried out by at least one examiner in the presence of an observer. Exams may be conducted in groups or as individual exams.
- (2) Within the scope of an oral exam, tasks may also be assigned to a reasonable extent for written treatment provided that the verbal character is not reversed.
- (3) The oral exam must be carried out within three months of enrollment. The examiner and the candidate may agree on exceptions with the consent of the examination board and extend the deadline.
- (4) If there are several authorized examiners for a module in which an oral exam is scheduled, the candidate is entitled to select an examiner from among them. On important grounds, in particular in case of excessive examination workload on the selected examiner, the examination board may nominate another examiner upon reasoned application of the examiner, in consultation with the candidate.
- (5) The exam duration per candidate is at least 20 minutes and a maximum of 60 minutes. The maximum duration can be exceeded where appropriate, with the candidate's consent.
- (6) An oral exam may be interrupted by the examiner on important grounds. A new appointment shall be made, such that the examination is carried out immediately after the reason for the interruption ceases to exist. Already existing exam results shall be credited where possible. Re-enrollment for the examination is not necessary in this case.

The reasons which led to interruption of the exam shall be communicated to the examination board.

- (7) The content, result and progression of the exam shall be set out in examination minutes, to be signed by the examiner and observer and attached to the examination files. The result shall be disclosed to the candidate after the exam.
- (8) Oral exams are open to the public at the university, unless a candidate objects hereto. The examiner may limit the audience number for the purpose of due implementation of the exam. However, public access at the university does not extend to counselling and disclosure of the exam result.

Article 44 Written exam

- (1) The duration of a written exam amounts to at least 90 minutes and no more than four hours. Multiple choice questions and electronic examination procedures are permitted as written exams.
- (2) A list of authorized tools shall be disclosed upon announcement of the exam date.
- (3) The results should be disclosed immediately, but at the latest six weeks after the exam date. Reasons shall be given to the examination board for any breaches of deadline. Theses are provided for inspection for a fixed term. Tasks and model replies and the evaluation benchmark shall be made available.
- (4) Candidates whose written exam has been assessed as “insufficient” (5.0) may be offered the opportunity of an immediate oral re-examination after one week by the examiner. The examiner may restrict the number of potential candidates by specifying transparent criteria. If a candidate takes advantage of this opportunity, the oral re-examination shall be carried out in accordance with the provisions of Article 43; an interruption of the oral re-examination is excluded. Enrollment for the oral re-examination at the responsible body of the Central University Administration is not required. The oral exam is assessed as “pass” or “fail”. If the oral re-examination is

deemed “pass”, the assessment shall be set to “sufficient” (4.0) for the written exam.

Article 45 Portfolio examination

- (1) The portfolio examination constitutes a standard type of exam, in which students can continuously provide different types of specific results within the teaching units of a module. On the one hand, the portfolio examination allows for adequate adjustment of the exam type to curriculum content and learning materials, and on the other hand is ideally suited to establishing that the relevant skills objectives have been achieved.
- (2) A portfolio examination consists of several different types of exam elements alongside studies. Special consideration is given here to the written composition, multiple-choice test, seminar paper, recorded practical assignment, outline, creative work, consultation or poster. Up to three written tests may be required within the portfolio examination. Exam results, which are equal to or exceed the content and/or timescale of an oral exam (Article 43) or a written exam (Article 44), are not admissible as components of the portfolio examination.
- (3) The nature, scope and weighting of individual exam elements form part of the module description.
- (4) The results of individual exam elements must be communicated at the latest four weeks after being taken. Reasons for any breaches of deadlines shall be given to the examination board.

Article 46 Final theses

- (1) The thesis is an examination paper and forms part of scientific training. By means of the thesis, the candidate should demonstrate that he or she is capable of addressing a problem from his or study program independently, based on scientific methods, within a specified deadline. The thesis may also be produced outside the university; provisions governing the evaluator are not affected.
- (2) The proposed length of theses is set out in the

- relevant examination regulations. The thesis may also be issued as group work in accordance with paragraph (7).
- (3) The candidate shall forward the application for admission to a thesis with the recommendation for an evaluator and subject where appropriate, as well as proof of the stipulated requirements, according to the course-specific examination regulations, to the responsible body of the Central University Administration. This body then forwards the application to the recommended evaluator following review.
 - (4) The assignment of tasks for the thesis is subdivided based on the nature and scope of the required outcomes. When allocating theses, the evaluator shall pay attention to the equivalence of subjects and ensure that the candidate is able to complete the paper independently within the deadline, using scientific methods.
 - (5) Following consultation with the candidate, the proposed evaluator forwards the recommended subject to the responsible examination board for approval. The board then specifies the second evaluator with consideration for the candidate's recommendations and forwards the application to the responsible body of the Central University Administration, which issues the subject to the candidate and places the issue date on file.
 - (6) The deadline for completion and any deadline extension for compiling the thesis are governed in the course-specific examination regulations. The subject of the thesis may be returned on one occasion. Deadlines for this procedure are set out in the course-specific examination regulations. In the event of a repeated thesis, the subject can only be returned if this rule has not been applied when producing a thesis in the first examination attempt.
 - (7) The subject of a thesis may be covered jointly by several students (group work) if the contribution of each student, evaluated as an exam result, can be clearly defined through the indication of objective criteria, such as paragraphs or page numbers. At least two evaluators shall be appointed, of whom at least two shall be authorized examiners for the study program. Applications for group work shall be made jointly by the students. The examination board decides on the application by means of a joint opinion of the designated evaluators. Each candidate shall submit a declaration, pursuant to paragraph (8) clause 1, marked accordingly for his or her part.
 - (8) When submitting an independently produced thesis, the student shall declare in writing that the paper has been produced without unauthorized external assistance and that no sources and tools have been used, other than those cited. Borrowing from other papers shall be marked at relevant points in the thesis. If the thesis is compiled in a foreign language with the consent of the evaluator, it must include a short summary in German, as an attachment. The finished thesis shall be submitted to the responsible body of the Central University Administration on time, in triplicate, and usually in digital form. The date on which the thesis is submitted shall be placed on file there. The thesis is forwarded to the evaluators for appraisal and evaluation.
 - (9) Theses not submitted on schedule or assessed as "inadequate" can only be repeated on one occasion. The subject may only be returned within the deadline specified in paragraph (6) if the candidate did not exercise this option in the first examination attempt when producing the thesis.
 - (10) The thesis shall be assessed by the evaluators according to Article 47(2). The grade and assessment shall be communicated to the responsible body of the Central University Administration within six weeks.
 - (11) The assessed thesis remains with the evaluator, but may be temporarily handed over to the author for inspection and the taking copies. The thesis shall be retained for at least three years.

Article 47 Evaluation of exam results, overall grade and overall assessment

- (1) Each individual exam assignment shall be evaluated and usually graded by the relevant examiner, using the following key:

Grade	Assessment	Definition
1.0/1.3	very good	outstanding performance
1.7/2.0/2.3	good	performance above-average requirements
2.7/3.0/3.3	satisfactory	complies with average overall requirements
3.7/4.0	adequate	performance which, despite some flaws, still complies with performance requirements
5.0	inadequate	performance with significant flaws which does not comply with requirements

Evaluation of an exam assignment shall be communicated to the responsible body of the Central University Administration within six weeks of completing the module.

- (2) If an oral or written exam is carried out in a module, the grade shall be identical to the module grade. In case of module exams in the form of portfolio examinations, the module grade is derived from a points system which defines point scores for the individual exam elements based on the level of fulfillment and converts the total score into a grade according to the table shown in paragraph (1). Details of the portfolio examination are set out in the relevant module description.

The overall grade for a thesis is derived from the arithmetic mean of individual grades. A corresponding assessment is allocated based on the table shown in paragraph (6). If the evaluator marks the thesis with a grade of at least 4.0 and the second evaluator with a grade of 5.0, a third evaluator is nominated by the responsible examination board. If the arithmetic mean of these three grades produces a value worse than 4.0, but two evaluators awarded a grade with the assessment of “adequate”, the overall grade shall be set at 4.0. The overall grade is derived from the arithmetic mean of the three grades in all

other cases. If this arithmetic mean produces a value worse than 4.0, the result is a grade of 5.0, with an assessment of inadequate.

- (3) Exams which are not assessed as “adequate” (4.0) at least have been failed and must be repeated according to Article 49.
- (4) If more credit points than necessary are attained in a group of subjects and they are not equalized with another group, a grade is determined for the group of subjects based on ECTS, according to the credit points attained. It is only possible to exceed the necessary credit points based on ECTS on one occasion, with the last module taken in the group. When determining the overall grade, the grade calculated for the group of subjects is only accepted with the number of credit points designated for the group of subjects.
- (5) If a module consists of results not graded with a differential of at least 50 %, no module grade is determined. The module is disregarded when determining the overall grade. No overall grade is allocated if modules with more than 50 % of credit points for the course, based on ECTS, are not graded. The relevant degree is conferred without an overall grade.
- (6) The overall grade for the Bachelor’s or Master’s examination is generally derived from the weighted arithmetic mean, based on the volume of credit points, of grades for the module and thesis. An assessment is allocated according to the table below:

Grade	Assessment
1.0–1.5	very good
1.6–2.5	good
2.6–3.5	satisfactory
3.6–4.0	adequate

- (7) When calculating grades pursuant to paragraph (2), and the overall grade, consideration is only given to the first decimal place; all additional decimal places are deleted without rounding.
- (8) A relative grade is founded on the principles of the ECTS Users Guide, as amended, for the overall grade. The right to issue an ECTS grade only exists based on the availability of relevant data.

Article 48 Reconsideration procedures

- (1) Students are entitled to lodge a motion for reconsideration against examination grades following disclosure of such grades, in order to revise and amend the exam grade. The original evaluation shall not be changed to the detriment of the student. The motion for reconsideration shall be submitted to the examination board through the responsible body of the Central University Administration. An absence of the statement of grounds, according to paragraph (2), shall be remedied immediately upon request. Following receipt of the statement of grounds, students can lodge a motion for reconsideration. Access to files should be granted in respect of evaluated exam assignments. The motion for reconsideration should be received within three months.
- (2) Evaluations of theses shall be substantiated in writing. The key reasons for the evaluation shall be presented. In case of oral subject exams, minutes shall be compiled in which the duration and significant objects and results of the module exam are established. In case of assignments within a portfolio examination, evaluations of individual assignments shall be substantiated in writing when determining the module grade.
- (3) The examination board is responsible for due performance of the reconsideration procedure. The board forwards the motion for reconsideration to the relevant examiners and ensures that comments are received on time. After the examiners' comments have been received, they are forwarded to the responsible body of the Central University Administration. The responsible body of the Central University Administration issues a written letter to the student on the outcome of the motion for reconsideration.
- (4) Examiners shall essentially decide on the motion for reconsideration within one month. The evaluations and the key reasons for these evaluations shall be reviewed. The result of this review, including grading, shall be substantiated in writing in compliance with paragraph (2).

Article 49 Resitting

- (1) Failed module exams for the Bachelor's or Master's examination can be repeated on two occasions. The first resit should be carried out in the same form as the failed exam and must be provided until the start of the following semester.
Time overlaps for different exams on the same course shall be excluded where possible. The second resit is usually an oral exam. Repeating a passed exam is not permitted. The student receives a written letter from the responsible body of the Central University Administration before the second resit, indicating the resit deadline and information on legal remedies.
- (2) The thesis can be repeated on one occasion in case of inadequate performance, delayed or failed submission.
- (3) Relevant unsuccessful attempts at other higher education institutions or in other study programs of Technische Universität Berlin shall be credited.
- (4) A resit should be repeated by the start of the following semester and at the latest by the end of the next semester but one after taking the failed exam. Exams not taken in the resit period are regarded as failed, unless the student is responsible for the failure.
- (5) In case of changing courses or higher education institutions, the examination board lays down the deadline within which resits are to be taken and decides on any possible absence according to Article 50.
- (6) Failed modules from the optional and compulsory optional area, which form part of the course, may be replaced within the regular period of study provided that a right to take exams still exists. Outside the regular period of study, an additional failed module from the compulsory optional area and a failed module from the optional area, which form part of the course, may be replaced. If a module is to be replaced, this shall be communicated to the responsible body of the Central University Administration in writing. Communication should take place at the latest by enrollment for the replacement exam.

Article 50 Withdrawal, absence

- (1) Withdrawal from an enrolled exam shall be notified to the examiner and the responsible body of the Central University Administration in writing at the latest on the last day before the examination. Withdrawal from a portfolio examination is possible until expiry of the enrollment deadline, pursuant to Article 39(3), unless a later date is proven for provision of the first evaluation-relevant assignment. Withdrawal from an exam in the event of a health disorder is fundamentally possible at any time.
- (2) If the candidate, without good reason:
 1. misses the exam appointment;
 2. fails to resit the exam within the stipulated deadline (Article 49(4));
 3. fails to enroll on time;
 4. withdraws after the start of the exam; or
 5. fails to submit the thesis or exam assignments on time,
 the relevant evaluation-related assignment, exam or thesis is assessed as “inadequate”.
- (3) Reasons for withdrawal or absence under paragraph (2) must be stated immediately after they occur, but at the latest within five days of the appointment, to the responsible body of the Central University Administration. An extension of the deadline may be granted by the examination board if timely verification of the good reason was demonstrably impossible. Proof shall be provided in the event of illness of the candidate, or of a person cared for by him or her, by means of a relevant medical certificate, which can usually be issued no later than the exam date. The examination board decides on recognition of the grounds. If the grounds are recognized, a new appointment shall be made where possible. Already existing exam results (including partial assignments) shall be credited according to Article 45 (2). The examination board may request official medical certificates for future exams in advance in individual cases.

Article 51 Fraud, breach of regulations

- (1) If a candidate tries to influence the result of an exam through fraud or influencing examination bodies, he or she shall be excluded from the examination by the examiner. In this case the exam is assessed as “inadequate” and shall be repeated, pursuant to Article 49. If an act under clause 1 is only revealed after the exam has been completed, clause 2 applies accordingly. If a candidate disrupts the regular progression of the exam, he or she may be excluded by the examiner. The examination board decides whether the exam is assessed as “inadequate” in this case and shall be resat, according to Article 49. In case of repeated fraud, the examination board may exclude the student from performing additional exam assignments.
- (2) If a candidate is excluded from the exam, he or she may request an immediate review of this decision by the examination board. The decision of the examination board shall immediately be communicated to the candidate in writing and reasons given.
- (3) In case of evaluation-relevant examination elements, pursuant to Article 45, as well as homework and thesis assignments, references from which external writings can be taken, in terms of wording or meaning, are identified by indicating sources. At the end the student shall provide a written assurance that he or she has written the paper independently and has not used any sources or instruments other than those indicated.
- (4) Evaluated assignments shall not be submitted more than once. Accreditation/crediting under Article 20 is not hereby affected.
- (5) Plagiarism is classified as fraud. Plagiarism, or attempted plagiarism, arises in particular if a written paper is used for several coursework assignments or exams, if sources, including Internet sources, which are reproduced in unchanged or modified form, in particular sources for texts, graphics, tables and images are not marked as such, or if unauthorized tools are used. Falsification of empirical data is also classified as fraud.

Article 52 Invalidity of exams

- (1) If the candidate has cheated in an exam, or there has been a breach of regulations pursuant to Article 51(5), and this fact is only revealed following delivery of the certificate, the examination board, in consultation with the faculty council, may retrospectively amend the relevant grades accordingly and declare the exam completely or partly “failed”.
- (2) If the requirements for admission to the Bachelor’s/Master’s exam have not been fulfilled, without the candidate wanting to cheat, and this fact only becomes known after delivery of the certificate, this defect is remedied by passing the exam. If the candidate has intentionally secured wrongful admission, the examination board shall decide on withdrawal of such authorization.
- (3) Inaccurate certificates shall be collected and new ones issued where appropriate. Decision under paragraphs (1) or (2) shall be taken within a deadline of five years.
- (4) Paragraphs (1)-(3) apply accordingly to certificates pursuant to Article 53(4)-(6).
- (5) Provisions on the withdrawal of a degree are not affected.

Articles 53 Certificates, transcript, record

- (1) Once the final exam has been successfully taken, a transcript is issued immediately after receipt of the assessment on the last exam by the responsible body of the Central University Administration. The following items are included in the transcript:
 1. name of course;
 2. name of discipline;
 3. modules with grades, assessment and relevant amount of credit points;
 4. coursework assignments (e.g. internships) furnished with credit points based on ECTS;
 5. name of evaluator, subject, grade, assessment and amount of credit points for the thesis; and
 6. overall grade and overall assessment.

If exams to be indicated in the transcript

have been provided on another course at Technische Universität Berlin or at another higher education institution, this is noted in the transcript.

- (2) The transcript bears the date of the final exam and shall be signed by the chairman of the responsible examination board. The transcript bears the seal of Technische Universität Berlin.
- (3) In addition to the transcript, a record is issued by the responsible body of the Central University Administration on the same date, on the award of the relevant degree. This record is signed by the President of Technische Universität Berlin and the dean of the responsible faculty or Chairman of the Joint Committee, and furnished with the seal of Technische Universität Berlin. The delivery of this record assures eligibility to register the relevant degree. The transcript and record contain a statement that the exam assignments have been performed in compliance with the provisions of these examination regulations and the subject-specific examination regulations.
- (4) Certificates of successful completion of examination assignments are issued by the responsible body of the Central University Administration. Certificates of successful completion of coursework assignments are issued by the person responsible for the relevant teaching unit.
- (5) If the student has definitively lost eligibility to take an exam, he or she shall be issued with a certificate from the responsible body of the Central University Administration on request, containing performed examination assignments and indicating that the Bachelor’s or Master’s exam has been failed.
- (6) A transcript is issued for the final exam and a degree conferred if coursework assignments and exams have been performed in a volume of at least half the assignments and exams, including the thesis, at Technische Universität Berlin. If this is not the case, the student receives a certificate, according to paragraph (5), revealing that he or she has fulfilled the

provisions of these examination regulations and subject-specific examination regulations through additional assignments, in combination with previous studies. Special rules on lecture-based undergraduate and graduate courses are unaffected.

Article 54 Double degree, dual degree

- (1) Technische Universität Berlin may provide for dual degrees for individual study programs in cooperation with another university. This requires the conclusion of a double degree agreement between the participating universities. The agreement sets out specific requirements, in particular preconditions for participation, timing, exams to be taken, rules on mutual recognition of coursework and exam assignments, and provision on the conversion of grades.
- (2) In order to receive degrees from both universities, the requirements of both examination regulations shall be fulfilled. Technische Universität Berlin shall confer its degree if half of the exam assignments were generally taken at Technische Universität Berlin.
- (3) In case of successful graduation on a course within the framework of a dual degree procedure, the graduate receives a transcript from each of the participating universities. Transcripts and records shall include a note that the course has been completed within the scope of a double degree agreement with the designated partner university.

Article 55 Joint degree

- (1) Technische Universität Berlin may set up joint study programs in cooperation with other universities. Course and examination regulations set out the specific requirements, in particular preconditions for participation, timing, exams to be taken, rules on mutual recognition of coursework and exam assignments, and provision on the conversion of grades.
- (2) In case of successful graduation on a joint course, the graduate receives a joint transcript from the participating universities in

the language in which the course was completed.

Article 56 Diploma supplement and transcript of records

- (1) In addition to the transcript and record, a diploma supplement is issued, providing information in German and English on the content and form of the qualification acquired by the degree. The diploma supplement is intended to simplify and improve – nationally and internationally – the evaluation and classification of degrees for study and professional purposes.
- (2) If the technical conditions exist, a transcript of records is attached to the diploma supplement, showing all modules and exams, all credit points allocated to coursework assignments and exams, and all grades. At the request of the student, the transcript of records shall also indicate coursework assignments and exams additionally taken at Technische Universität Berlin by the student, at his/her own discretion.

Article 57 Authorization for data processing and access to examination files

- (1) The Student Data Regulation of the State of Berlin, as amended, shall apply to the collection and deletion of data.
- (2) Within one year of completion of an exam, the student is granted access to his or her examination papers, related reports from examiners, and examination minutes, upon application to the central body of the Central University Administration within a reasonable deadline. Otherwise, the Administrative Procedures Act shall apply.

Annulment of the Regulations of Technische Universität Berlin on students' rights and obligations (OTU), the Regulations governing general examination procedures in undergraduate and graduate courses (AllgPO) and the statutes of Technische Universität Berlin on reconsideration procedures for exam grades

dated May 8, 2013

The Academic Senate of Technische Universität Berlin, at a meeting held on May 8, 2013, adopted a resolution on the annulment of the Regulations of Technische Universität Berlin on students' rights and obligations (OTU) dated February 6, 1991 (AMBl. TU p. 29), last amended on May 23, 2012 (AMBl. TU 10/2012 p. 278), the Regulations on general examination procedures in undergradu-

ate and graduate courses (AllgPO) dated February 6, 2008, last amended on June 13, 2012 (AMBl. TU 12/2012 p. 310), and the statutes of Technische Universität Berlin on reconsideration procedures for examination grades dated May 29 and October 23, 1996 (AMBl. TU 9/1996 p. 71) when the Regulations governing general study and examination procedures (AllgStuPO) take effect.

At a Glance

On <http://www.bccn-berlin.de> you find all information on our Master's Program Computational Neuroscience.

On the TU website a lot of pages can be found using the ► "quick access". Filling this field on the right side of the TU website with the correct number you are directed to the correspondent webpage. Below these quick access numbers are provided if available.

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 Phone 030/31-2 48 75/-2 53 82
 psychologische-beratung@tu-berlin.de
 ☎ 133594

Representative of Students With Disabilities and Chronic Diseases

Mechthild Rolfes
 Room H 71
 Phone 030/314-2 56 07
 mechthild.rolfes@tu-berlin.de
 Consultation hours: Tue 4–6 PM
 ☎ 40950

Important Links

Following the links below you find important information on our Master's Program Computational Neuroscience as well as helpful contact points at BCCN Berlin, Faculty IV, and TU Berlin.

Bernstein Center for Computational Neuroscience Berlin (BCCN Berlin)

<http://www.bccn-berlin.de>

Faculty IV, TU Berlin

☎ 115

Campus Center

(Contact Point for application and enrollment)

☎ 21738

IT-Service-Center "tubIT" (PC Pools, WLAN, etc.)

☎ 163

University schedule of lectures at TU Berlin (LSF)

☎ 80594

Information Platform "Moodle"

<http://moodle.hu-berlin.de>

Studentenwerk

(Information on housing, university cafeterias, BAföG, etc.)

<http://www.studentenwerk-berlin.de/jobs/index>

AStA – Student's Union

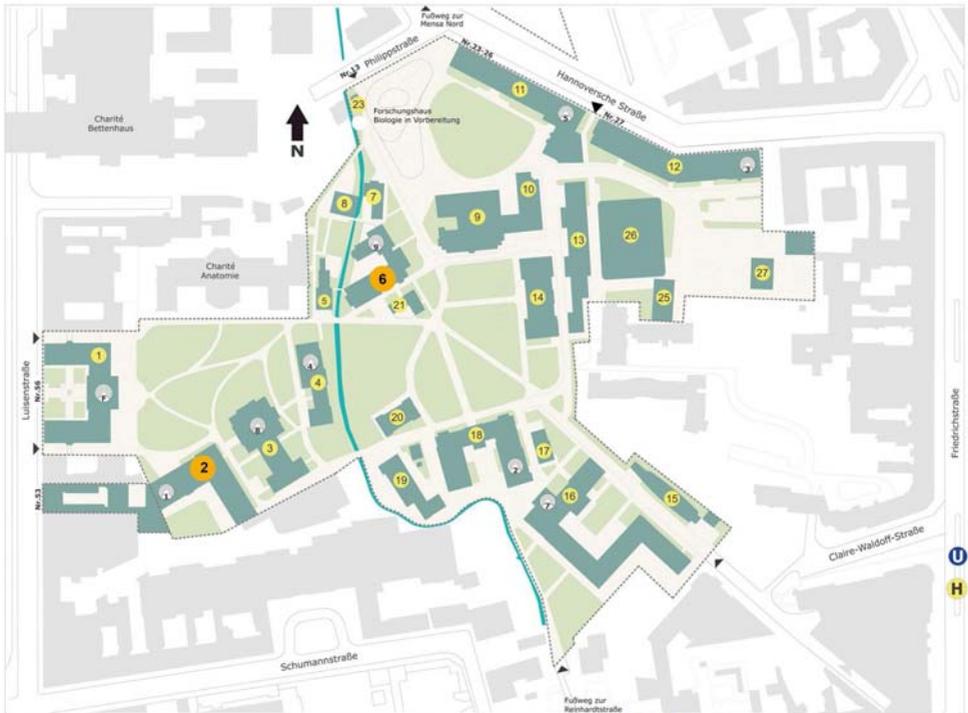
<http://asta.tu-berlin.de>

Freitagsrunde – Student Council of Faculty IV

<http://www.freitagsrunde.org>

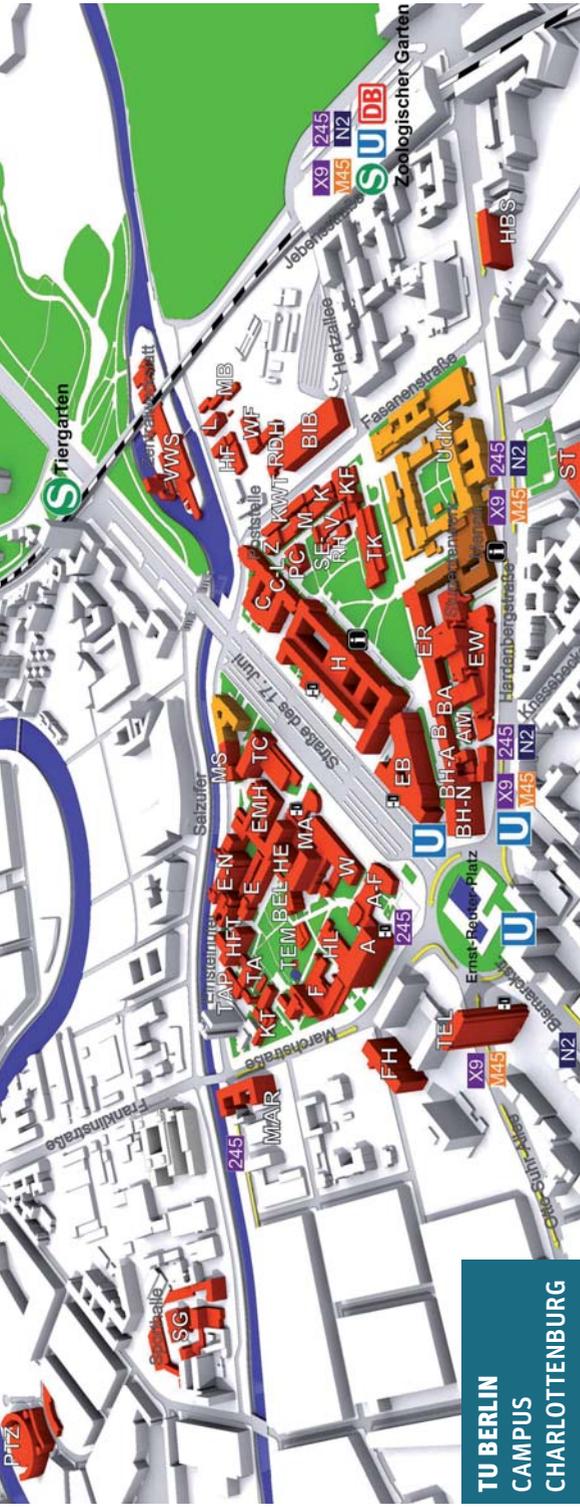
List of Abbreviations

BCCN Berlin	Bernstein Center for Computational Neuroscience Berlin		Masters's program in Computational Neuroscience
CP	Credit points/Leistungspunkte	PR	Practical courses/Praktika
EB	Examination Board	SE	Seminar
ECTS	European Credit Transfer and Accumulation System	StO CNS	Study regulations for the Masters's program in Computational Neuroscience
GKmE CNS	Joint Committee with decision-making power for the Master's program in Computational Neuroscience	SWS	Hours per week per semester/Semesterwochenstunden
IV	Integrated course/Integrierte Lehrveranstaltung	UE	Exercise/Übung
PJ	Project/Projekt	VL	Lecture/Vorlesung
PO CNS	Examination regulations for the	ZO	Admission regulations/Zulassungsordnung



Campus Nord of Humboldt-Universität zu Berlin

2 6 Haus 2/6 BCCN Berlin Hörsaal 1



TU BERLIN CAMPUS CHARLOTTENBURG

A	Architekturgebäude Straße des 17. Juni 152	EB	Erweiterungsbau Straße des 17. Juni 145	KT	Kerntechnik Marchstraße 18	TA	Technische Akustik Einsteinufer 25
A-F	Architekturgebäude Flachbau Straße des 17. Juni 152	EMH	EM (Elektromaschinen), HT (Hochspannungstechnik)	KWT	Kraftwerkstechnik und Apparatbau	TAP	Technische Akustik Prüfhalle Einsteinufer 31
AM	Alte Mineralogie Hardenbergstraße 38	ER	Ernst-Ruska-Gebäude Hardenbergstraße 36A	L	Lebensmittelchemie	TC	Technische Chemie Straße des 17. Juni 124
B	Bauingenieurgebäude Hardenbergstraße 40A	EW	Eugene-Paul-Wigner-Gebäude Hardenbergstraße 36	M	Mechanik Müller-Breslau-Straße 10	TEL	ehem. Telefonen-Hochhaus Ernst-Reuter-Platz 7
BA	Alter Bauingenieurflügel (im Physikgebäude) Hardenbergstraße 40	F	Flugtechnische Institute Marchstraße 12, 12A, 12B, 14	MA	Mathematikgebäude Straße des 17. Juni 135	TEM	Transелектроненмикроскопие Marchstraße 10
BEL	Kindergarten, Caré Campus, Gerhard Ertl Center Marchstraße 6 und 8	FH	Fraunhoferstraße 33-36 Hauptgebäude der TU Berlin Straße des 17. Juni 135	MAR	Marchstraße Straße des 17. Juni 136	TK	Thermodynamik und Kältetechnik Straße des 17. Juni 135
BH-A/ BH-N	Bergbau und Hüttenwesen, Altbau und Neubau Ernst-Reuter-Platz 1	H	Hochfrequenztechnik Einsteinufer 25	MS	Mechanische Schwingungslehre Einsteinufer 5	V	Verformungskunde Straße des 17. Juni 135
BIB	Universitätsbibliothek Fasanenstraße 88	HFB	Hermann-Föttinger-Gebäude Müller-Breslau-Straße 8	PC	Physikalische Chemie Straße des 17. Juni 135	VWS	ehem. Versuchsanstalt für Wasserbau und Schiffbau, Zentralwerkstatt
C	Chemiegebäude Straße des 17. Juni 115	HFT	Hochfrequenztechnik Einsteinufer 25	PTZ	Produktionstechnisches Zentrum Potsdamerstraße 8-9, 13-14	W	Wasserbau und Wasserwirtschaft Straße des 17. Juni 144A, 144A
C-L	Chemie-Lagerhaus Straße des 17. Juni 115A	HL	Heizung und Lüftung Marchstraße 4	RDH	Rudolf-Drawe-Haus Fasanenstraße 89	WF	Werkzeugmaschinen und Fertigungstechnik
E/E-N	Elektrotechnische Institute, Altbau und Neubau Einsteinufer 19	K	Kraftfahrzeuge ehem. Kraft- und Fernheizwerk Fasanenstraße 1A	SE-RH	Reuleaux-Haus, Eisenbahnlehranlage Straße des 17. Juni 135	Z	Fasernenstraße 90 Poststelle, Druckerei, Materialausgabe Straße des 17. Juni 135
		KF	Kraftfahrzeuge ehem. Kraft- und Fernheizwerk Fasanenstraße 1A	SG	Sewerin-Gelände Salzhofer 17-19, Dovesstraße 6		
				ST	Steimplatz 2		



Master Program:
[www.bccn-berlin.de/
Graduate+Programs/
Master+Program](http://www.bccn-berlin.de/Graduate+Programs/Master+Program)