

Study and Examination Regulations for the Master's program in Computer Science (Informatik) of Faculty IV Electrical Engineering and Computer Science of Technische Universität Berlin

READING VERSION

Status: as of 1 November 2018

(Please note that only the original German Version is legally binding! This version is an unofficial reading version. The text published in the Official Gazette of Technische Universität Berlin is the authoritative and legally binding version.)

Unofficial Reading Version in consideration of:

New Version, [Amtliches Mitteilungsblatt Nr. 06/2016](#)

1st amendment, [Amtliches Mitteilungsblatt Nr. 26/2017](#)

2nd amendment, [Amtliches Mitteilungsblatt Nr. 26/2018](#)

On 6 May 2015, the Faculty Council of Faculty IV – Electrical Engineering and Computer Sciences – of Technische Universität Berlin enacted the following Regulations Governing Study and Examination Procedures for the Master's program in Computer Science (Informatik), in accordance with Section 18 (1) no. 1 of the University Charter of Technische Universität Berlin and Section 71 (1) no. 1 of the Berlin State Higher Education Act (Berliner Hochschulgesetz, BerlHG), as amended on 26 July 2011 (Berlin Gazette of Laws and Ordinances [GVBl.], page 378).

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I. General Section

Section 1 – Scope of Application

These study and examination regulations set down the objectives and organization of studies as well as the requirements for and execution of examinations in the Master's

program in Computer Science at Faculty IV – Electrical Engineering and Computer Science. They supplement the Regulations Governing General Study and Examination Procedures (AllgStuPO) of Technische Universität Berlin by course-specific regulations.

Section 2 – Entry Into Force/ Expiry

(1) These regulations shall come into force on the day after their publication in the Official Notifications of Technische Universität Berlin (Amtliches Mitteilungsblatt – AMBI.).

(2) The present regulations supersede nine semesters, from the date of their enforcement on, the study regulations for the Master's program Informatik of 10 March 2010 (AMBI. TU 18/2011, p. 293) in the version of 6 February 2013 (AMBI. TU 5/2013, p. 50) and the examination regulations for the Master's program Informatik of 10 March 2010 (AMBI. TU 18/2011, p. 298). Students who have not completed their Master's program in accordance with the regulations sentence (1), upon this amendment, shall be automatically subject to the present regulations. The examination board decides upon the accreditation of their previous academic performance.

(3) The present regulations apply to all students who enroll in the Master's program Computer Science (Informatik) at Technische Universität Berlin after the enactment of the present study and examinations regulations. Students who enrolled for the Master's Program Informatik of Technische Universität Berlin before the present regulations were enacted may decide within the set time limit (see section (2)) according to which of the two regulations they wish to continue their courses. This decision is binding and irrevocable and has to be registered with the relevant central body.

II. Objectives and Organization of Studies

Section 3 – Qualification Objectives, Course Contents and Professional Fields of Activity

(1) This Master's program will provide graduates with knowledge of subject-specific methods and approaches pertinent to the field of computer science. Graduates will learn to apply these tools and be competent to assess their viability for specific application scenarios. Graduates will be widely acquainted with core competencies in computer science, such as analysis, abstraction and formal description of relevant problems, and they will be skilled in finding hardware and software solutions and applying them accordingly. Graduates will gain in-depth knowledge of specific aspects of computer science. On the basis of their specialized knowledge, they will be able to evolve existing methods on their own account. Graduates will acquire the ability to analyze and find targeted solutions for complex technical and scientific problems in the field of Information and Communication Technology. They will be able to independently understand and structure specific technical and scientific subject matters and display these in appropriate written and oral forms. Graduates will obtain the ability to reflect scientific knowledge critically. They will be capable of acting responsibly within their scientific environment and society and stay considerate of ethical standards. They will be skilled in cooperating in

intercultural contexts and have highly developed social and communication skills in order to occupy outstanding positions within multidisciplinary teams.

(2) Important elements of this Master's program are the analysis of shortcomings and the search for equivalent computer-based response-strategies. This includes the development of algorithms and programs in distributed systems, networks and embedded systems, the analysis and manipulation of extremely large quantities of data as well as the modulation of fundamental aspects of computing systems. This also includes the understanding of the interconnection between computer science and other fields - for example, human-computer interaction - and their interdisciplinary aspects. All subjects of this Master's program shall enhance the graduate's analytical and creative skills as these are highly sought after in any professional and scientific work and in a society that is increasingly linked by technology. In order to facilitate skills and competence beyond specialization in computer science, this Master's program aims to provide students with the opportunity to work and conduct their research largely in small working groups. Projects shall offer the opportunity not only to train the students' practical skills but also their proficiency at organizing teamwork on their own. Seminars shall help to enhance the students' presentation skills and their capability to work through the subject matter and problem areas independently and provide them with the opportunity to present and to discuss their own solutions. The Master's thesis shall, in addition, enhance the students' ability to plan and organize a specific and complex research project.

(3) There is no valid general job description for a computer scientist. Employment varies depending on industries, enterprises, and working environments, and often asks for very specific know-how. Yet, the core competencies of any computer scientist have proven to be the ability to develop specific performance solutions and to come up with increasingly specialized and innovative problem-solving concepts. This Master's program aims, therefore, to upgrade your basic skills as a computer scientist and to provide you with the essential specialization in the field of computer science; with this Master's program, you may seek employment internationally, start up your own enterprise, or even pursue a career in research.

Section 4 – Course Start, Standard Period of Study and Required Coursework

- (1) The course may be started in the winter or summer semester.
- (2) The standard time-to-degree, including the writing of the Master's thesis, shall be four semesters.
- (3) The required coursework in the Master's program amounts to 120 CP.
- (4) The educational program and the entire examination procedure are designed and organized in such a way that the program may be completed within the standard time-to-degree.

Section 5 – Organization of Studies

(1) Students have the right to plan the progress of their own course of study as long as it complies with the provisions of these Regulations Governing Study and Examination Procedures. This does not apply to obligations arising from the definition of subject-specific admission requirements for modules. Though students may organize their progress by themselves, we attached for your consideration a good example for a study schedule (Annex (2)).

(2) Students are to render an academic performance that attains a total amount worth of 120 CP, comprising 90 CP in modules and 30 CP in the Master's thesis.

(3) The compulsory electives are comprised of a total worth of 60 to 66 CP. You may choose modules worth 30 to 42 CP from one of the following study areas:

- Data and Software Engineering
- Embedded Systems and Computer Architectures
- Foundations of Computing
- Cognitive Systems
- Digital Media and Human Computer Interaction
- Distributed Systems and Networks

Modules for these study areas are listed in the respective module list.

For the additional compulsory electives, modules worth 18 to 36 CP that are to be completed, you may choose from the other listed study areas, respectively from the study area Information Systems.

(4) Students are obliged to participate in one project worth at least 9 CP and a seminar from the compulsory electives area.

(5) Students may choose elective modules worth 24 to 30 CP from the entire range of subjects of TU Berlin, other universities and equivalent institutions of higher education within the scope of application of the Berlin State Higher Act, as well as institutions of higher education and universities abroad that have been accredited as equivalent. These modules shall serve for the acquisition of additional specialized and interdisciplinary skills. Students are recommended to choose from modules that factor societal, social and/or gender and diversity aspects. We also recommend modules that qualify for entry to a profession, such as modules from the fields of Electronic Engineering or Mathematics. The electives may also include modules facilitating skills in English or other foreign languages. English modules from level C1 (GER, according to CEFR) on will be credited.

(6) Students are recommended to study abroad. During their studies abroad they shall engage in graded studies and exams. Achievements during this time may be recognized upon request if they are equivalent to the modules laid out by the Study and Examinations Regulations of TU Berlin and if they complement the Master's programs modules. The examination board decides on specific requirements. We advise you to organize your study schedule and examinations abroad accordingly. To make sure that your achievements are eligible for accreditation at TU Berlin, we advise you to present your study schedule and all planned achievements well ahead of your departure to your module supervisor or even the examination board.

The faculty offers important advice and support throughout your planning phase and your stay abroad. You may consult your module supervisor, the General Student Counseling, the International Studies Coordinator, the Academic Coordinator or the examination board. The TU Berlin and the Faculty IV hold agreements and joint programs with several international universities and higher education institutions. Please keep yourself informed. There may be particular requirements for your study stay with these partner institutions

Upon return, you will have to present your achievements to the examination board if you wish to obtain accreditation of the credits gained during your stay abroad. We advise you to schedule your stay abroad for your second or third semester as these two semesters are, according to our experience, the most favorable times for studying abroad during your Master's program.

III. Requirements and Conduct of Examinations

Section 6 – Purpose of the Master's Examination

The Master's examination serves the purpose of assessing whether a candidate has reached the qualification objectives as laid out in Section 3 of these regulations.

Section 7 – Master's Degree

Upon successful completion of the Master's examination, Faculty IV – Electrical Engineering and Computer Science – awards to the graduate the academic degree 'Master of Science' (M. Sc.) on behalf of TU Berlin.

Section 8 – Scope of the Master's Examination; Determination of the Overall Grade

- (1) The Master's examination consists of the module examinations (Annex 1) as specified in the module list and the Master's thesis according to Section 9.
- (2) In accordance with Section 47 of the Regulations Governing General Study and Examination Procedures (AllgStuPO), the final grade is assessed on the basis of all graded and applicable module examinations as they are stated in the module list and the Master's thesis. The maximum amount of all modules that shall not be counted into the final grade, must not exceed 30 CP and shall include electives worth 12 CP. Subject to the final choice of all

modules that are credited for the final grade shall be generally those modules with the lowest credits. In the case of two equivalent modules, the regulations foresee that the most recent module shall be disregarded. All not graded modules or those that are marked 'ungraded' shall primarily be included in the final grade. The Master's thesis is weighted with 1 and determines the final grade.

Section 9 – Master's Thesis

(1) The Master's thesis shall generally be written in the fourth semester. The Master's thesis amounts to 30 CP and is to be produced within 26 weeks. The examination board can grant an extension to the deadline if there is an important reason for which the student is not responsible, for the duration of the reason. The total possible extension is a maximum of 26 weeks. If the extension exceeds this maximum, the student may withdraw from the examination.

(2) The topic of the Master's thesis may be rejected once, however only within the first six weeks of being issued by the relevant department of the Central University Administration.

(3) The procedure of application for admission to a final thesis and the latter's assessment is regulated by the Regulations Governing General Study and Examination Procedures (AllgStuPO), in force at the time of application.

(4) The Master's thesis must not obtain a non-disclosure statement or any other secrecy arrangement that goes beyond the standard confidentiality and due diligence obligations.

Section 10 – Types of Examination and Enrollment for Examinations

(1) Types of examination and the procedure of enrollment for module examinations are regulated by the Regulations Governing General Study and Examination Procedures (AllgStuPO), in force at the date of application.

(2) Compulsory elective modules or elective modules from other faculties are subject to the examination regulations as laid out in the module descriptions.

Annex 1 – List of Modules

https://www.eecs.tu-berlin.de/menue/studium_und_lehre/studiengaenge/informatik_computer_science/master/computer_science_stupo_2015/module/ (Quick Access: 168536)

Annex 2 – Recommended Progress of Study

Sem. / CP	Computer Science (Informatik)		
1 st semester 30 CP			
2 nd semester 30 CP	Compulsory Electives Study Area (30-42 CP)	Compulsory Electives Study Areas (18-36 CP)	Electives (24-30 CP)
3 rd semester 30 CP			
4 th semester 30 CP	Master's thesis (30 CP)		