Technische Universität Dresden
IT Department

Study Regulations
for the consecutive Master's programme in Computational Logic

Starting July 22, 2017

On the basis of the first sentence of § 36 Section 1 of the Law on the Freedom of Universities in the Free State of Saxony (Law on Higher Education of Saxony, SächsHSFG), as amended by the notice of January 15, 2013 (SächsGVBl. Page 3), as last amended by Article 11 of the Law on April 29, 2016 (SächsGVBl. Page 349, 354), the Technische Universität Dresden shall issue the following examination regulations as statutes.

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§1
Scope of validity

By the Saxon Law on Higher Education and the goals of examination regulations, this study regulation prescribes the objectives, content, structure and course of studies for the consecutive Master's degree program in Computational Logic at the Dresden University of Technology.

§ 2
Objectives of Study

(1) Graduates of the Master's degree programme in Computational Logic can analyse problems from the area of Computational Logic and to develop effective solutions based on the same. They have, on the one hand, competent basic knowledge in the various disciplines studied in the programme, and on the other hand, can apply this knowledge in concrete scenarios. They are proficient in the design, development, and operation of knowledge-based systems, they are familiar with formal methods and techniques and can specify and implement complex systems, as well as analyse and formally prove their characteristics using mathematical methods.

(2) Due to their extensive professional knowledge in the field of Computational Logic, the graduates can cope with a diverse and complex task in the field of computer science and artificial intelligence, after a suitable period of training in professional practice.

§ 3
Admission Requirements

Prerequisite for admission is a first qualifying university degree recognised in Germany, or a degree from a state- or state-recognised professional vocational education institution in Computer Science, or a related study programme. In addition, special knowledge is required in the area of Logic, as well as English language skills. Proof shall be provided by the suitability test procedure, in accordance with the suitability check regulations, in their respective current version.

§ 4
Start and Duration of the Studies

(1) The start of study begins in each case, with the Winter semester.

(2) The regular duration of study for the Master's degree in Computational Logic includes, in addition to attendance, the completion of self-directed studies and the Master's examination.

§ 5
Teaching and Learning Methods

(1) The lectures are organised into modules. The individual modules are used to deliver, consolidate and deepen the educational material through lectures, exercises, seminars, language courses, practice, projects and self-directed studies.

(2) During lectures, the subject matter of the modules is introduced. Exercises allow for the application of the material to special areas of focus. Seminars enable the students to inform themselves about the basic principles of special literature and other materials in a selected problem area, to report the results of their work, to discuss these within the group and/or to present these in written format. Language courses deliver and train students in the knowledge, abilities and readiness in the respective language, as they develop communication and intercultural competence within an academic and professional context, as well as in everyday situations. The purpose of practical is to help students apply and solidify the learning contents delivered, as well as to acquire practical skills in potential areas of employment. Upon completing the module, the students can analyse a simple scientific task and relate it to the state of the Art in the underlying sub-area of specialisation. They can solve the tasks and present them, describe in writing the state of the Art, as well as the solutions found, in a lecture and defend these in a subsequent debate. During self-directed studies, the learning contents are repeated and anchored.

§ 6
Structure and Course of Study

(1) The study is organised into modules. The curriculum offered is divided among three semesters. The fourth semester serves the purpose of completing the Master's thesis and its defence.

(2) The course of study includes 7 compulsories and 3 elective modules, which allow the students to set an emphasis on their coursework, according to their preferences. For the purpose, the emphasis areas
1. Knowledge Representation,
2. Principles of Inference,
3. Theoretical Computer Science and Logic,
4. Artificial Intelligence (AI) and
5. Free electives

are available. The choice is binding. Changing the area of emphasis is possible; it requires a written request presented to the Examination Board, in which the student shall name the current, as well as the desired new area of emphasis.

(3) Content and qualification objectives, including teaching and learning styles, prerequisites, applicability, frequency, workload, and the duration of the individual modules are found in the module descriptions (Anlage 1a and 1b).

(4) The contributions are supposed to be delivered either in English or, if the module description lists them as such, in the German language.

(5) The appropriate allocation of the modules to the individual semesters, the observance of which makes it possible to complete the studies within the regular study period, as well as the type and scope of the respective courses, and the number and timing of the necessary study- and examinations performances are found in the enclosed degree completion plan (Anlage 2).

(6) The list of electives offered, as well as the degree completion plan, could be changed Department Council if suggested so by the Academic Board. The currently offered electives are announced at the start of the semester as usual, by the department. The amended degree completion plan is valid for the students, to whom they are usually announced at the beginning of their studies. The Examination Board decides any exception to the rules explained in sentence 3

§ 7
Content of the Study

(1) The Master's Programme in Computational Logic is research-oriented.

(2) It comprises the following topic areas:
1. Propositional and predicate logic, as well as basic techniques in logic-based systems,
2. Logic programming and programming with constraints,
3. Analysis of logic-based systems in regard to aspects relevant for Informatics,
4. Theory and applications of integrated logic-based systems,
5. Select current and special topics relevant for logic-based systems.

(3) Additionally, the offer encompasses further topic areas for subjects like knowledge processing, theoretical computer science and logic, specification and verification, inference and artificial intelligence.

§ 8
Performance Points

(1) ECTS performance points (performance points) document the students' average workload, as well as their educational progress. One performance point is equal to 30 hours of workload. Normally, 60 performance points are awarded per academic year, which means 30 performance points per semester. The total workload for the study corresponds with 120 performance points and covers the type and scope in the module descriptions (see Appendix 1a and 1b) regarding the study- and examination performances, as well as the Master's thesis and its defence.

(2) The module descriptions (see Appendix 1a and 1b) also list how many performance points can be acquired through that particular module. The performance points are earned upon successful passing of the module examination. § 26 of the examination regulations remains unaffected thereby.

§ 9
Academic Advising Services

(1) General academic counselling is provided by the Center for Student Counselling at the Dresden University of Technology and covers questions of possible courses of study, enrolment modalities and general student affairs. Specialised academic counselling is the responsibility of the Faculty of Computer Science. The specialised academic counselling supports the students especially in matters of structuring their studies.

(2) At the beginning of the third semester, each student who has not yet provided any proof of performance has to take part in specialised academic counselling.

§ 10
Adaptation of module descriptions

(1)   In order to adapt to changed conditions to an optimal study organisation, the module descriptions can be changed in a simplified procedure, with the exception of the fields "Module name", "Content and qualification objectives", "Teaching and learning forms", "Prerequisites for the awarding of performance points" and "Performance points and grades".

(2)   In a simplified procedure, the Department Council, acting on a proposal from the Academic Board, shall approve amendments to be made to the module descriptions. The changes are to be announced, as usual, in the department.

§ 11
Entry into force, publication and transitional provisions

(1)   This study regulation shall take effect starting October 1, 2013, and will be published in the official announcements of the Technische Universität Dresden.

(2)   It shall apply to all students enrolled in the Master's degree programme in Computational Logic, starting with the Winter semester of 2013 / 2014.

(3)   For the students enrolled before the Winter semester of 2013 / 2014, the currently valid examination regulations (before the entry into force of this ordinance) for the Master's degree in Computational Logic programme shall continue to apply, unless they declare their transfer in writing to the Examination Board. The format and the deadline for this written declaration are regulated by the Examination Board and are usually announced at the beginning of each semester, by the department.

Completed on the basis of the Faculty Council Decision of the Faculty of Computer Science
dated July 17, 2013, and the approval of the Rectorate dated September 29, 2015.

Dresden, July 22, 2017

The Rector
of Technische Universität Dresden

Prof. Dr.- Ing. habil. D Eng / Auckland Hans Müller-Steinhagen