

Technische Universität Dresden
Faculty of Computer Science
Faculty of Mathematics
Center for Molecular and Cellular Bioengineering

**Regulations for determining the suitability for the Master degree programme
Computational Modelling and Simulation**

(Aptitude Test Regulations)

Of 31st January 2020

pursuant to § 13 para. 4 and § 17 para. 10 of Act on the Autonomy of Institutions of Higher Education in the Free State of Saxony (*Sächsisches Hochschulfreiheitsgesetz - SächsHSFG*) in the version of the announcement of 15th January 2013 (SächsGVBl. p. 3), last changed by Article 2 para 27 of the Law of 5th April 2019 (SächsGVBL. p 245, 354) Technische Universität Dresden shall issue the following suitability assessment regulations as statutes:

Table of Contents

- § 1 Scope of Application
- § 2 Admission requirements
- § 3 Access Committee
- § 4 Application and deadlines
- § 5 Proof and determination of special suitability
- § 6 Aptitude interview
- § 7 Notification of suitability
- § 8 Entry into force and publication

§ 1

Scope of application

These regulations regulate the determination of the special admission requirements (aptitude assessment) for the Master degree programme Computational Modelling and Simulation at Technische Universität Dresden on the basis of the regulations of the applicable Act on the Autonomy of Institutions of Higher Education in the Free State of Saxony.

§ 2

Admission Requirements

(1) According to § 3 of the study regulations for the Master degree programme Computational Modelling and Simulation, every applicant who has the required qualification for the Master degree programme Computational Modelling and Simulation is admitted.

(2) Qualified and therefore entitled to access within the meaning of para. 1 are those who:

1. Can prove one first university degree that is recognised in Germany or a degree from a state or state-recognised vocational academy qualifying for a profession in computer science, mathematics, natural sciences, economics or engineering,
2. can demonstrate a good command of English (at least level B2 of the European Framework of Reference for Languages), provided that English is not the applicant's native language and
3. can provide proof of special aptitude to study in the Master degree programme in Computational Modelling and Simulation in accordance with § 5.

§ 3

Access Committee

The Dean of the Faculty of Computer Science appoints an Access Committee for the respective application period on the proposal of the Study Commission. As a rule, it consists of six university lecturers from TU Dresden, usually those responsible for the Track of the Master degree programme Computational Modelling and Simulation. The Access Committee shall decide on the existence of the admission requirements in accordance with § 2, invite to an aptitude interview if necessary and decide on appeals against decisions within the framework of this procedure. In addition, the Access Committee is responsible for the development and publication of the application form in accordance with § 4 para. 2 No. 1.

§ 4

Application and deadlines

(1) The form for determining the special suitability according to these regulations in the Master degree programme Modelling and Simulation is part of the formal application documents for enrolment and must be submitted in due time and in accordance with the form.

1. Applicants with a university degree obtained in Germany (Master's degree) must apply to the following address:
Technische Universität Dresden
Faculty of Computer Science
Chairperson of the Access Committee

Chairperson of the Access Committee of the Master degree programme Computational Modelling and Simulation
01062 Dresden
Germany

Applicants with a university degree obtained abroad (master's degree) must apply to uni-assist.

2. Applicants from non-EU countries who have completed their university degree (Master's degree) at an international university must apply for the winter semester by 31st May. All other German and international applicants must apply for the winter semester by the 15th July.

(2) The application must be accompanied by the following documents:

1. Formal application form,
2. Curriculum vitae with a list of previous education;
3. informal letter of motivation,
4. officially certified copy of the first professional qualifying degree certificate (university or vocational academy),
5. officially certified copies of additional certificates and evidence proving the particular suitability according to § 2 para. 2 no. 3.
6. Proof of sufficient knowledge of English at B2 level of the European Framework of Reference for Languages in accordance with § 2(2). No. 2. Proof is deemed to have been provided if:
 - a) the applicant's native language is English or
 - b) the previous course of study is/was completely in English or
 - c) have successfully completed at least 12 LP modules in English as part of the Bachelor programme, or
 - d) passed the Test of English as a Foreign Language (TOEFL) with at least 550/213/80 (written/computer-based/internet-based) points, or
 - e) passed the IELTS test with at least level 6.0, or
 - f) the UNIcert test has been passed with at least level II or
 - g) sufficient English education can be demonstrated within the framework of the university entrance qualification acquired, or
 - h) a self-authored student research project or scientific paper can be submitted in English, or
 - i) a language test to be determined by the examination board, e.g. as part of the aptitude interview pursuant to § 6, was passed with the corresponding minimum result.

(3) Applications which are not received in full, in due form or on time shall be excluded from further proceedings.

(4) If, at the time of application, proof of the first university degree qualifying for a profession (*Diplom*) pursuant to para. 2 no. 4 is not yet available, the applicant shall also be included in the aptitude assessment procedure under these regulations if 80% of the credit points required for the university degree have already been earned in completed module examinations or a graduation thesis and – if necessary – of the colloquium through certification by the home university. As proof of this, the applicant must submit an original or officially certified copy of a corresponding certificate from their university. This does not affect the necessity of presenting all other forms of proof mentioned in para. 2 with the application and para.3.

Proof and determination of special suitability

(1) The special suitability for the Master degree programme in Computational Modelling and Simulation according to § 2 paragraph 2 number 3 exists if proof of independently applicable knowledge in the fields of computer programming as well as mathematical and scientific foundations has been provided. In particular, proof is required that sequential computer programmes can be independently implemented, tested and applied in a translated high-level language. In addition, knowledge at Bachelor Degree level is required in: analysis of functions of one or more variables (derivation, integrals, partial derivations), basics of vector and matrix calculation (distribution, axioms, probabilities), algorithms and data structures (arrays, lists, searching and sorting algorithms, concept of complexity), as well as bachelor level knowledge of the areas of utility of the chosen Track.

(2) The Access Committee shall first examine whether proof of particular suitability has been furnished on the basis of the documents attached to the application, in particular the documents pursuant to § 4 (2), but only if the admission requirements pursuant to § 2 (2) Nos. 1 and 2 have been fulfilled. If the particular suitability does not already result from the applicant's documents, an aptitude interview will be held in accordance with § 6 before the Access Committee.

§ 6

Aptitude interview

(1) The aim of the aptitude interview is to determine whether the knowledge, skills or abilities required in accordance with § 5 paragraph 1, which provide information about the applicant's particular suitability, are available.

(2) The aptitude interview shall take place in a uniformly structured form and shall last no longer than 30 minutes.

(3) The invitation to the interview shall be issued in good time in written form by the Access Committee in accordance with § 3, but at least two weeks before the date of the aptitude interview.

(4) A member of the Access Committee shall draw up minutes of the essential content of the aptitude interview, which shall also include the participants, the duration and the result of the interview. The identity of the applicant is verified in the interview by official photo identification.

(5) If the applicant does not appear for an aptitude interview on the fixed date, they have no right to be granted an alternative date. If the applicant has taken part in the aptitude interview but has not been able to provide proof of special aptitude in accordance with § 4 (2) No. 3, the aptitude interview can be repeated next year upon application by the applicant. The application must be submitted within the period specified in 4 para. 1. § 4 para. 2 does not apply in these cases.

(6) If the applicant can prove that they are not in a position to pass the aptitude interview in the intended form due to prolonged or permanent physical disability or chronic illness, the admission committee will offer them an alternative form for determining aptitude. A medical certificate, and, in cases of doubt, an official medical certificate may be required for this.

(7) If it is not possible for an applicant from abroad or for reasons for which they are not responsible to pass the aptitude interview in the intended form, the Access Committee shall offer them an alternative form for determining aptitude.

§ 7

Notification of suitability

(1) If the applicant proves the required aptitude in accordance with § 2, they shall receive a notification of aptitude from the Admissions Committee. The aptitude certificate serves to be submitted to the Admissions Office/international student office of TU Dresden and represents the required form of proof of admission to the Master's programme. It is a prerequisite for enrolment in the Master degree programme Computational Modelling and Simulation.

(2) If the applicant cannot prove the required aptitude pursuant to § 2, the Access Committee shall also issue a written decision on this matter, which shall be accompanied by instructions on legal remedies.

§ 8

Entry into force and Publication

These aptitude assessment regulations shall enter into force one day after their publication in the Official Announcements of Technische Universität Dresden. The Regulations for the Determination of Special Aptitude for the Master Degree Programme Computational Modelling and Simulation of March 14th 2018 (Official Announcement of TU Dresden No. 04/2018 of March 21st 2018, p. 70) are hereby no longer effective.

Issued at the Faculty of Mathematics on the basis of the decisions of the Faculty of Computer Science of 18th December, 2019, the decision of the Scientific Council of the Center for Molecular and Cellular Bioengineering (CMCB) of 18th December, 2019 and the approval of the University Executive Board of 21st January 2020.

Dresden, 31st January 2020

The Rector
of Technische Universität Dresden

Prof. Dr.- Ing. habil. DEng/Auckland Hans Müller-Steinhagen