

TUD Dresden University of Technology
Faculty of Computer Science
Faculty of Mathematics
Center for Molecular and Cellular Bioengineering

**Regulations for assessing the aptitude for the Computational Modeling and Simulation consecutive Master's degree program
(Computational Modeling and Simulation Aptitude Assessment Regulations)**

of 25 February, 2026

On the basis of § 14 para. 4 and § 18 para. 11 of the Saxon Higher Education Act (SächsHSG) in the version published on May 31, 2023 (SächsGVBl. p. 329), last amended by Article 2 of the Act of January 31, 2024 (SächsGVBl. p. 83), TUD Dresden University of Technology issues the following Aptitude Assessment Regulations as statutes:

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§ 1

Scope of application

These regulations determine how the fulfillment of the special admission requirements are to be assessed (aptitude assessment) for the Computational Modeling and Simulation consecutive master's degree program at TUD Dresden University of Technology, based on the provisions of the applicable Act on the Saxon Higher Education Act.

§ 2

Admission requirements

(1) Pursuant to § 3 of the Study Regulations for the Computational Modeling and Simulation consecutive Master's degree program, every applicant who has the required aptitude (qualification) for the Computational Modeling and Simulation Master's degree program is admissible to the program.

(2) The following candidates are qualified and therefore entitled to admission within the meaning of para. 1:

If they can provide evidence of a first university degree recognized in Germany that qualifies them for professional practice, or a degree from a state or state-recognized vocational academy in computer science, mathematics, natural sciences or engineering,

If they can prove English language skills at B2 level according to the Common European Framework of Reference for Language pursuant to § 4 para.2 no. 7 and

If they can prove particular aptitude for the Computational Modeling and Simulation consecutive Master's degree program in according to § 5.

§ 3

Admissions Committee

The Dean of the Faculty of Computer Science will appoint an Admissions Committee for the respective application period on the recommendation of the Academic Affairs Committee. It is comprised of at least three lecturers from TUD Dresden University of Technology, usually the track coordinators of the Computational Modeling and Simulation Master's degree program, as well as one student representative. The student representative shall be nominated by the Faculty Student Council. The Admissions Committee shall decide on whether the admission requirements pursuant to § 2 have been fulfilled, invite applicants to an assessment interview if necessary, and decide on appeals against decisions made as part of this procedure. In addition, the Admissions 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 assessing the special aptitude according to these Regulations for the Computational Modeling and Simulation consecutive Master's degree program is part of the required documents for enrollment and must be submitted in due time and in the correct form.

Applicants with a university degree obtained in Germany (entrance qualification for a Master's degree) must apply to the following office:

- a) Applicants with a German citizenship or those with a non-German citizenship but who obtained the German *Abitur* qualification must apply to the following address:

TUD Dresden University of Technology
Faculty of Computer Science
Chairperson of the Admissions Committee
of the Computational Modeling and Simulation Master's degree program
01062 Dresden
Germany.

- b) Applicants with non-German citizenship and an international qualification equivalent to the *Abitur* must submit their application to the following address:
TUD Dresden University of Technology
International Office
Helmholtzstraße 10
01069 Dresden
Germany

Applicants with a university degree obtained outside Germany (entrance qualification for a Master's degree program) must apply via uni-assist.

Applicants with citizenship outside the EU who have obtained their university degree (entrance qualification for a Master's degree program) at a non-German university must apply for the winter semester by May 31. All other German and international applicants must apply for the winter semester by July 15.

(2) The following documents must be enclosed alongside the application:

The application form to determine the applicant's aptitude for the Computational Modeling and Simulation consecutive Master's degree program,

A curriculum vitae outlining the applicant's educational background,

A letter of motivation that explains the desire to study as well as the individual's particular aptitude and qualifications,

A copy of the first degree qualifying the applicant for a profession (university or vocational academy),

Copies of additional certificates and proof demonstrating any special aptitude in accordance with § 5,

Any module descriptions and similar documents that describe the content of the completed lectures,

Proof of sufficient English language skills of at least B2 level of the Common European Framework of Reference for Languages (CEFR) pursuant to § 2 para.2 no. 2. Proof shall be deemed sufficient if

- a) The previous course of study was completed entirely in English (e.g., by providing proof of this medium of instruction, (MOI) and was undertaken in a country within the European Union, Australia, the United Kingdom, Ireland, Canada (excluding Quebec and New Brunswick), New Zealand, the United States, Hong Kong, or Singapore; or
- b) The TOEFL test was passed with a minimum score of 550 (paper-based), 213 (computer-based), or 80 (internet-based); or
- c) The IELTS test was passed with at least level 6.0, or
- d) The Cambridge English Test (e.g. CAE or FCE) was passed, demonstrating a proficiency of at least B2 level on the Common European Framework of Reference for Languages (CEFR); or
- e) The Pearson PTE Academic Test was passed with a minimum score of 60;
- f) The UNiCert test has been passed with at least Level II or
- g) The required level of English according to the CEFR is indicated on the certificate of general or subject-specific university entrance qualification; or
- h) Language certificates are provided demonstrating the requisite English instruction as part of the applicant's previous higher education studies; or
- i) A language test specified by the Admissions Committee was passed with the required minimum score.

Proof must be submitted as a German or English translation, unless it is written in one of these languages.

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

(4) If proof of the first professionally qualifying university degree (degree certificate) in accordance with para 2, no. 4 is not available at the time of application, the applicant will also be included in the aptitude assessment procedure in accordance with these regulations, provided that 80 percent of the credits required for the university degree have already been proven through certification from the applicant's home university. As proof of this, the applicant must submit a corresponding certificate from their university. The necessity of submitting all other evidence mentioned in para. 2 alongside the application and para. 3 remain unaffected by this.

§ 5

Proof and assessment of special aptitude

(1) The special aptitude for the Computational Modeling and Simulation consecutive Master's degree program in accordance with § 2 para.2 no. 3 is fulfilled if independently applicable knowledge in the areas of computer programming as well as mathematical and scientific fundamentals can be demonstrated. In particular, applicants must show that they are able to independently implement, test, and apply sequential computer programs in a compiled, high-level programming language. In addition, Bachelor-level knowledge is required in the following areas: Analysis of functions of one or several variables (derivatives, integrals, partial derivatives); fundamentals of vector and matrix calculus (including matrix inversion and decomposition); basics of probability theory (distributions, axioms, probabilities); algorithms and data structures (arrays, lists, search and sorting algorithms, the concept of complexity); as well as Bachelor-level knowledge in the application area of the chosen track.

(2) The Admissions Committee shall first examine whether proof of aptitude has been provided on the basis of the documents enclosed with the application, in particular, the documents pursuant to § 4 para. 2 no. 5, but only if the admission requirements pursuant to § 2 para. 2 nos. 1 and 2 have been fulfilled. Should the Admissions Committee be unable to take a decision based on the provided documents, an assessment interview pursuant to § 6 will be conducted.

§ 6

Assessment interview

(1) The aim of the assessment interview is to determine and confirm whether the applicant possesses the required knowledge and skills in accordance with § 5 para. 1.

(2) The assessment 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 Admissions Committee in accordance with § 3, but at least two weeks before the date of the assessment interview.

(4) A member of the Admissions Committee shall draw up minutes of the essential content of the assessment 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 applicants do not attend the assessment interview on the agreed date, they are not entitled to an alternative date. If the applicant has participated in the assessment interview but has not been able to provide proof of special aptitude pursuant to § 2 para. 2 no. 3, the assessment interview may be repeated the following semester upon request by the applicant. The application must be submitted within the period specified in § 4 para. 1. § 4 para. 2 shall not apply in such cases.

(6) If the applicant can credibly demonstrate that they are not in a position to participate in the assessment interview in the intended form due to a long-term or permanent physical disability or chronic illness, the Admissions Committee shall offer them an alternative form for determining aptitude. For this purpose, the student may be required to submit a medical certificate and, in cases of doubt, an official medical certificate by a public health officer (*Amtsarzt*).

(7) If it is not possible for an international applicant to attend the assessment interview in the intended form due to reasons for which they are not personally responsible, the Admissions Committee shall offer them an alternative form for determining aptitude.

§ 7

Notification of aptitude

(1) If the applicant demonstrates the required aptitude according to § 2, they will receive a notification of aptitude from the Admissions Committee, usually by August 15 at the latest. The notification of aptitude is to be presented to the Admissions Office or the International Office of TU Dresden and is the required form of proof in order to enter the Master's degree program. It is a prerequisite for enrollment in the Computational Modeling and Simulation consecutive Master's degree program.

(2) If the applicant cannot prove the required aptitude according to § 2, the Admissions Committee will also issue a written decision on this, which must be accompanied by instructions on how to appeal.

§ 8

Expiry

The Regulations for assessing the aptitude for the Computational Modeling and Simulation Master's degree program (Computational Modeling and Simulation Aptitude Assessment Regulations of January 31, 2020 (Official Announcements of TU Dresden No. 3/2020 of March 6, 2020, p. 22) shall cease to apply.

§ 9

Entry into force

These Aptitude Assessment Regulations shall enter into force one day after their publication in the Official Announcements of TUD Dresden University of Technology.

The above regulations are hereby issued. They are to be published in the Official Announcements of TU Dresden.

Dresden, 25 February, 2026

The Rector
of TUD Dresden University of Technology

Prof. Ursula M. Staudinger