

General Information

This Master's program is a two-year full-time program focusing on advanced topics related to the engineering of distributed systems. The topics encompass the specification, design, analysis, development, and operation of distributed systems. There will be special emphasis on designing and developing dependable and secure software for networked and distributed systems. All teaching is in English.

General Course Program

The duration of the program is four semesters, i.e., two years. During the first two semesters this Master's program will introduce students to the individual disciplines in the field of engineering of distributed systems. Students will also be taught basic scientific and engineering methods. Starting in the 2nd semester, students will be able to customize the focus of their studies by selecting elective courses that match their interests.

The program starts with the winter semester, which begins in October. The summer semester starts in April. Each semester is followed by a two-month break. The course work consists of four required modules, multiple selective courses and computer lab courses. The writing of a Master's thesis is required to complete the program. Graduates earn the degree of „Master of Computer Science“ (M.C.S.).

Teaching Staff

The teaching staff consists of professors of the TU Dresden. Visiting professors and experts from industry may complete the team.

Fees

There is no tuition. However, there is a 136 Euro fee per semester for the Studentenwerk (Organization for Student Affairs), which includes free use of public transportation in and around Dresden. Moreover, students have to pay for their living expenses as well as for accommodation.

Overview of Required Modules and Topics

- Module M1: Systems Engineering
 - Foundations of design, development and usage of computer-based systems
 - Non-functional aspects like reliability and availability
- Module M2: Ubiquitous Information Systems
 - Middleware architectures and mobile communication systems
 - Platforms for development of distributed systems
 - Design and implementation of transactional information systems
- Module M3: Distributed and Secure Platforms
 - Development of distributed and secure systems
 - Design of secure architectures (security and cryptography)
- Module M4: System Design and Analysis
 - Development of large software systems
 - Modeling and simulation of event-oriented systems

Exams can be taken at the end of each semester, and credits will be earned for successfully completed courses.

Student Housing

The Studentenwerk (Organization for Student Affairs) of the TU Dresden is in the very favorable position to accommodate almost every international student in residence halls if they wish so. The rent is between 150 and 200 euro/month. Accepted students are required to fill out the application form for student accommodation and send the completed form to the Studentenwerk as soon as possible (preferably by July/August). The application form will be sent together with the letter of admission.

Health Insurance

International students are required to sign up for health insurance at an accredited German health insurance company. We also recommend to sign up for personal liability insurance. Information on health insurance can be obtained through our International Office. The cost for health insurance amounts to approx. 50 euro/month.

Application and Admission

The following prerequisites must be fulfilled by students applying for the Master's Program in Computational Engineering at the TU Dresden (Dresden University of Technology):

- A three or four year Bachelor's Degree in Computer Science or a comparable university-equivalent qualification. This degree needs to be completed by the time courses begin.
- Language Certificate in English (for non-native speakers only)
If English is not your native language, you need a certificate demonstrating your proficiency. The most widely recognized tests are:
 - IELTS: required level: 6.0
 - TOEFL: required level: 550 points

Equivalent certificates might also be considered. To obtain a student visa, it might be required to have passed the TOEFL or IELTS test. Please consult the web site of the local German embassy for visa details (or see <http://www.auswaertiges-amt.de/www/en>).

- Submission of GRE general test and computer science subject score reports are strongly recommended (see www.gre.org).
- Certificates indicating the achievement of „good“ (grade B) or „very good“ (grade A) in the following areas:
 - Operating Systems
 - Computer Networks and Distributed Systems
 - Database System Architecture and Design
 - Software Engineering
 - Mathematics and Electrical Engineering
- Advanced programming skills in at least one higher programming language (e.g. Java, C, C++)

The application form and more information on the application process and scholarships can be downloaded from <http://www.computational-engineering.de>.

Our admission committee reviews each application. If the application is accepted, the TU Dresden International Office will send you the necessary documents for registration.

TU Dresden - „Powerhouse in Science and Technology“

Study with us in Dresden, Germany and enjoy an international atmosphere with students and teachers from all over the world. At present, there are more than 30,000 students at the university, some 3,000 of which are international students from about 100 different countries. Therefore, TU Dresden is a truly international university and an integral part of the international network of the scientific community.

Dresden - „Florence on the Elbe“

Dresden has been well known for more than two hundred years as „Florence on the Elbe“. Its famous buildings include the Zwinger Palace and the Semper Gallery, the Semper Opera House, the Royal Palace (now being rebuilt), the Green Vault, the Church of our Ladies (now being rebuilt), the Cathedral, numerous churches and the castles of Grillenburg, Pillnitz and Moritzburg, together with its museums, theaters and orchestras. Apart from that, good reasons for young researchers to come to Dresden are the many student clubs that make student life especially attractive. The Elbe valley, running from the Bohemian border to the region of Meissen and including the Saxon capital of Dresden, is one of the most impressive landscapes in Germany with its peculiar sandstone rock formations, its vineyards, its gardens, and its historical buildings, which are well-known all over the world.

Contact for Further Information

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**TECHNISCHE
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Department of Computer Science



**COMPUTATIONAL
ENGINEERING**

**INTERNATIONAL
MASTER'S PROGRAM
IN DISTRIBUTED SYSTEMS
ENGINEERING**