



Deutscher Akademischer Austauschdienst  
German Academic Exchange Service



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# Master's degree



## Software Systems Engineering

RWTH Aachen University • Aachen

### Overview

Degree	Master of Science in Computer Science
Teaching language	<ul style="list-style-type: none"><li>English</li></ul>
Languages	Additional courses in German are optionally available.
Full-time / part-time	<ul style="list-style-type: none"><li>full-time</li></ul>
Programme duration	4 semesters
Beginning	Winter semester
Application deadline	<p>Applicants who are citizens of countries <b>outside the European Union (EU) and European Economic Area (EEA)</b>: <b>1 March</b> for the following winter semester</p> <p>Applicants who are citizens of countries in the <b>EU or EEA</b>: <b>15 July</b> for the following winter semester</p> <p>First-semester students are only allowed to start the programme in the winter semester.</p>
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	<p>This programme focuses on the design and implementation of complex software systems, including their embedding in technical and socio-technical systems. The programme is designed to take full advantage of the scope and environment offered at RWTH Aachen University as one of the leading universities of technology in Europe. Students will gain knowledge of theoretical, practical, and applied aspects of computer science, which will allow them to adapt quickly to the constant changes in this fast-paced field. In addition, students will gain the ability to understand the necessary depth and interdisciplinary skills by taking courses in several areas. The programme features the areas of theoretical computer science, communication, data and information management, applied computer science, and software engineering. Students will take a seminar and a lab course, and they will conclude their studies by writing a Master's thesis.</p>

# Course Details

<b>Course organisation</b>	<p>For detailed information on the programme's structure, please refer to the <a href="#">programme's website</a>.</p> <p>The standard duration of the study is four semesters (two years). In each semester, about 30 credits have to be achieved in lectures from different areas, seminars, labs, and the Master's thesis in the fourth semester.</p> <p>The programme's curriculum covers the areas of theoretical computer science, communication, data and information management, applied computer science, and software engineering. Students may take courses of no more than 35 credits in each of these areas, but are required to take courses of at least 12 credits in theoretical computer science as well as at least twelve credits in software engineering. In addition, a mandatory course on the management of large software system engineering projects is also required. During the programme, students must take a seminar and a lab course.</p> <p>The course contents will be structured according to the ECTS (European Credit Transfer System). Each student will be assigned a professor from the Computer Science Department as a personal mentor.</p> <p><a href="#">» PDF Download</a></p>
<b>A Diploma supplement will be issued</b>	Yes
<b>Description of other international elements</b>	A stay abroad is not part of the curriculum, but nevertheless it is possible to embed it into the studies.
<b>Course-specific, integrated German language courses</b>	Yes
<b>Course-specific, integrated English language courses</b>	No

## Costs / Funding

<b>Tuition fees per semester in EUR</b>	None
<b>Semester contribution</b>	Approx. 300 EUR per semester
<b>Costs of living</b>	The average cost of living and studying, including food, accommodation, personal and social expenses, and study-related costs, is estimated to be 750 to 1,100 EUR per month. For more information, see <a href="https://www.rwth-aachen.de/go/id/bqmn/lidx/1">https://www.rwth-aachen.de/go/id/bqmn/lidx/1</a> .
<b>Funding opportunities within the university</b>	Yes
<b>Description of the above-mentioned funding opportunities within the university</b>	A limited number of scholarships from various organisations is available to help students finance their studies. Please see the following website for a list of exchange programmes, scholarships, and grants, together with their specific application requirements and conditions, and/or contact the International Office directly for advice and assistance: <a href="https://www.rwth-aachen.de/scholarships">https://www.rwth-aachen.de/scholarships</a>

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## Requirements / Registration

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### Academic admission requirements

For detailed academic admission requirements, please refer to the [programme's website](#). The following is a brief summary:

- Candidates must have a **first degree** (Bachelor of Sciences or Engineering) in **computer science, computer engineering, informatics, or any other closely related discipline**, awarded by an internationally recognised university-level institution. Candidates should have performed above average in their undergraduate studies.
- Candidates must have a **substantial background in computer science and mathematics**. Typically, this would include courses in the following areas:
  - mathematics: calculus, discrete mathematics, linear algebra, and probability theory
  - practical computer science: programming languages, data structures and algorithms, databases and information systems, and software engineering
  - technical computer science: computer architecture, operating systems and system software, and data communication and security
  - theoretical computer science: automata theory and formal languages, computability and complexity theory, and mathematical logic
- The **Graduate Record Examination (GRE)** general test is **mandatory** for applicants that are not citizens of the European Union or European Economic Area. The GRE general test result must be provided with the application for admission. Applications that require the GRE general test results but are submitted without them are rejected.

In case substantial background knowledge is missing, a bridging course can be assigned as an additional programme requirement. Note that we only check submitted applications for eligibility, so please do not contact us to check the eligibility for you before the deadline.

### Language requirements

- Candidates must be able to **speak and write fluently in English** and provide a certificate of their skills (e.g. TOEFL IBT with at least 90 points or IELTS of at least 5.5; see <https://www.rwth-aachen.de/go/id/zwyn/lidx/1> for more information).
- Non-German speaking students have to attend a basic German language course in their first semester. German speaking students have to complete another course instead.

### Application deadline

Applicants who are citizens of countries **outside the European Union (EU) and European Economic Area (EEA)**:  
**1 March** for the following winter semester

Applicants who are citizens of countries in the **EU or EEA**:  
**15 July** for the following winter semester

First-semester students are only allowed to start the programme in the winter semester.

### Submit application to

<https://online.rwth-aachen.de>

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## Services

### Possibility of finding part-time employment

International students have very limited options of working while studying. Therefore, it is not possible to finance your entire studies by working. There are teaching and research assistant positions available, which are, however, normally first awarded to students who have already started their academic studies in a programme. Students working as teaching or research assistants may work a maximum of 19 hours a week. By law, a student from outside the EU is permitted to work either 120 full days or 240 half days per calendar year. We do caution students to

be careful about taking on outside work commitments, as completing a Master's degree within the designated two years will be difficult if a student spends too much time away from his or her studies.

#### **Accommodation**

RWTH Aachen University has a limited number of dorm rooms and studio apartments. However, there are usually waiting lists for these rooms, and students will probably need to find private accommodation first. There are a number of options for finding private accommodation in and around Aachen, and the International Office can provide students with information beforehand or upon their arrival.

For a furnished room, the average rent per month is about 200 EUR to 250 EUR, and for a two-three room flat, the average rent per month starts at 300 EUR. Please note that there are only a very limited number of family apartments in the university dorms, which is why students who bring their spouses or families with them will most likely need to find private accommodation. For short-term accommodation, there are many hotels and a youth hostel.

#### **Support for international students and doctoral candidates**

- Welcome event
- Buddy programme
- Visa matters
- Help with finding accommodation
- Support with registration procedures

#### **General services and support for international students and doctoral candidates**

The International Office's Info Service Centre (ISC) provides information and services for international students and visiting scientists at RWTH Aachen University upon their arrival in Aachen. RWTH Aachen University considers the integration of international visiting scientists and students an important task and, in order to reach this goal, offers the following assistance to international students and scientists:

Accommodation information, assisting students during admission procedures, registering your address with local authorities, opening a bank account, insurance matters, locating pertinent university and city offices, tips for finding a job in Aachen

These services are offered to students during the orientation phase at the beginning of each semester. The ISC offers a social programme called "Leisure and Pleasure" and publishes a monthly newsletter for international students and scientists.

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# RWTH Aachen University

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With 260 institutes in nine faculties, RWTH Aachen University is one of Europe's leading institutions for science and research. Currently, more than 44,500 students are enrolled in 144 academic programmes. More than 8,500 of them are international students hailing from 130 different countries. The scientific education students receive at RWTH Aachen University is firmly rooted in real-world application. As a result, our graduates are highly sought after by businesses to work as trainees and fill executive positions. National and international rankings show that our graduates have a high aptitude for managing complex tasks, constructively solving problems in teams, and taking on leadership responsibilities. Thus, it should come as no surprise that one in five board members of German corporations is an alumnus of RWTH Aachen University.

Work conducted in the research centres at RWTH Aachen University is strongly oriented towards the current needs of industry, commerce, and the professions. This has resulted in numerous innovations, patents, and licences. The individual competence centres at RWTH Aachen University collaborate effectively across departments and faculties in interdisciplinary groups and forums, while still maintaining a strong focus on their own department specialisation. For instance, the computer science and biology departments - and even the social sciences - all have a clear connection to the school's engineering focus. This has been a crucial factor in motivating multinational corporations such as Philips, Microsoft, and Ford to locate their research institutions in the Aachen region.

Excellence in teaching and research constitutes the basis from which RWTH Aachen University works with other leading institutions and technical universities around the world.

## University location

As Germany's westernmost city, Aachen is located on the borders of Belgium and the Netherlands. Its population is about 260,000. Aachen's historic centre around the distinctive cathedral (UNESCO world heritage site) is characterised by a student lifestyle. At the city's doorstep, the hilly Eifel landscape with its rivers, lakes, and forests offers a picturesque countryside for outdoor recreation. Aachen benefits from its central location in the heart of Europe!

## Contact

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Computer Science

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🌐 Course website: <https://sc.informatik.rwth-aachen.de/de/studium/master/sse/>

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# International Programmes in Germany - Database

[www.daad.de/international-programmes](http://www.daad.de/international-programmes)  
[www.daad.de/sommerkurse](http://www.daad.de/sommerkurse)

## Editor

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## GATE-Germany

Consortium for International Higher Education Marketing  
[www.gate-germany.de](http://www.gate-germany.de)

## Disclaimer

The data used for this database was collected and analysed in good faith and with due diligence. The DAAD and the Content5 AG accept no liability for the correctness of the data contained in the "International Programmes in Germany" and "Language and Short Courses in Germany".

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