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Software Systems Engineering • RWTH Aachen University • Aachen .................................................. 2
Master's degree

Software Systems Engineering
RWTH Aachen University • Aachen

Overview

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<tr>
<th>Degree</th>
<th>Master of Science in Computer Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching language</td>
<td>English</td>
</tr>
<tr>
<td>Languages</td>
<td>Additional courses in German are optionally available.</td>
</tr>
<tr>
<td>Programme duration</td>
<td>4 semesters</td>
</tr>
<tr>
<td>Beginning</td>
<td>Winter semester</td>
</tr>
<tr>
<td>Application deadline</td>
<td>1 March</td>
</tr>
<tr>
<td>Tuition fees per semester in EUR</td>
<td>None</td>
</tr>
<tr>
<td>Combined Master's degree / PhD programme</td>
<td>No</td>
</tr>
<tr>
<td>Joint degree / double degree programme</td>
<td>No</td>
</tr>
<tr>
<td>Description/content</td>
<td>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.</td>
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</tbody>
</table>

Course Details

| Course organisation | 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 twelve credits in theoretical computer science as well as at least 16 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. 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.

### Costs / Funding

<table>
<thead>
<tr>
<th>Description of e-learning elements</th>
<th>Video recordings are being made of some lectures, and some lectures feature additional e-learning elements.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in the e-learning course elements is compulsory</td>
<td>No</td>
</tr>
<tr>
<td>Can ECTS points be acquired by taking the online programmes?</td>
<td>No</td>
</tr>
<tr>
<td>Can the e-learning elements be taken without signing up for the course of study?</td>
<td>No</td>
</tr>
</tbody>
</table>

### Tuition fees per semester in EUR

- **None**

### Semester contribution

- **Approx. 250 EUR per semester**

### Costs of living

- **The average cost of living and studying, including food, accommodation, personal and social expenses, and study-related costs, is estimated to be 750-1,000 EUR per month.**

### Funding opportunities within the university

- **Yes**

### Description of the above-mentioned funding opportunities within the university

- 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: [http://www.rwth-aachen.de/scholarships](http://www.rwth-aachen.de/scholarships)
Requirements / Registration

Academic admission requirements

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 should have a substantial background in computer science and mathematics. Typically, this would include courses in the following areas: calculus, linear algebra, discrete mathematics and (mathematical) logic, probability theory, fundamentals of computer programming, computer architecture, data structures, analysis of algorithms, programming languages, computability and complexity theory. In addition, applicants should have taken at least two advanced undergraduate courses on specialised topics such as distributed systems, information systems, operating systems, or compilers. The Graduate Record Examination (GRE) is mandatory.

Language requirements

Candidates must be able to speak and write fluently in English (TOEFL iBT >90 points or IELTS 5.5). English-speaking students attend a basic German language course in their first semester.

Application deadline

1 March

Submit application to http://online.rwth-aachen.de

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.

Specific specialist or non-specialist support for international students and doctoral candidates

Other
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.

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**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!
International Programmes in Germany - Database

www.daad.de/international-programmes
www.daad.de/sommerkurse

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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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