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# Master's degree

## Chemical and Energy Engineering

Otto von Guericke University Magdeburg • Magdeburg

## Overview

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<tr>
<th><strong>Degree</strong></th>
<th>Master of Science (MSc)</th>
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</thead>
<tbody>
<tr>
<td><strong>Course location</strong></td>
<td>Magdeburg</td>
</tr>
<tr>
<td><strong>Teaching language</strong></td>
<td>English</td>
</tr>
</tbody>
</table>

### Languages

The complete Master's programme can be done in English. Students are free to choose elective courses held in German.

Language courses (for example: all levels of German) are offered by the university and can be taken during the Master's studies.

### Programme duration

4 semesters

### Beginning

Winter and summer semester

### More information on beginning of studies

Find detailed information about the academic calendar here: https://www.ovgu.de/en/Study/During+Your+Studies.html

### Application deadline

**Winter semester**
- 15 July (international Bachelor's degree)
- 15 September (German Bachelor’s degree)

**Summer semester**
- 15 January (international Bachelor's degree)
- 15 March (German Bachelor's degree)

Application opening: 15 April (winter semester application), 15 October (summer semester application)

### Tuition fees per semester in EUR

None

### Combined Master’s degree / PhD programme

No
Course Details

In most industrialised countries, process technology has an important place in the economy. For example, it occupies approx. a 50% share in German industrial production. Energy engineers work not only in traditional industries but also increasingly in growth areas such as biotechnology, medical technology, and microelectronics. They use physical, chemical, and biological processes in order to convert the composition of a diverse range of materials.

Because the study programme is entirely in English, young people from different cultural backgrounds enrol and contribute to an interesting and varied student life. All 13 professors of the faculty are involved in the programme of study. They can access resources that include modern technical equipment, in particular high-quality optical (laser) measuring instruments and very efficient computer technology. Due to many partnerships with industry partners, the Master’s programme is application-oriented.

Course organisation

We start the programme with some fundamental lectures on topics such as fluid dynamics, thermodynamics, heat and mass transfer, chemistry, mechanical, thermal and chemical process engineering. This will help students from different countries and various academic backgrounds to reach the same scientific level. Afterwards, we continue with lectures on the application of chemical engineering. At this point, the students can arrange their own modules with lectures and tutorials within the offered courses depending on individual interest. The students get the chance to participate in ten practical laboratory projects (such as estimation of kinetic rate constants, laser droplet velocimetry, determination of heat transfer coefficients, and ANSYS applications). There are excursions to industrial companies offered to get an insight into where the slogan “Made in Germany” comes from. The fourth and final semester is reserved for the Master’s thesis as the culmination of the programme.

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A Diploma supplement will be issued

Yes

International elements

- International guest lecturers
- Specialist literature in other languages
- Study trips

Course-specific, integrated
German language courses

No

Course-specific, integrated
English language courses

No

The course of study can be taken entirely online

No

Digital learning and teaching modules

- Blogs
- MOOCs
- Chats with lecturers

Description of e-learning

Some courses are connected to an e-learning platform. Via this platform, chats with lecturers and
### Costs / Funding

<table>
<thead>
<tr>
<th>Cost Element</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tuition fees per semester in EUR</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Semester contribution</strong></td>
<td>Currently, the semester fee is approx. 111 EUR. It covers services offered by the &quot;Studentenwerk&quot; (student union) and the student representatives. Enrolled students receive a semester ticket for free use of public transport, student discounts in the campus cafeteria, etc.</td>
</tr>
<tr>
<td><strong>Costs of living</strong></td>
<td>A minimum of 720 EUR per month must be budgeted for accommodation, cost of living, health insurance, books, and miscellaneous expenses. In comparison with many other towns and cities, the rental prices in Magdeburg are relatively low. There are no tuition fees, and the semester fee already includes the cost of bus and tram travel within Magdeburg. The following link provides a fair picture of the cost of living in Magdeburg: <a href="https://www.ovgu.de/unimagdeburg/en/Study/Organization+of+the+Stay/Finance-p-48630.html">https://www.ovgu.de/unimagdeburg/en/Study/Organization+of+the+Stay/Finance-p-48630.html</a></td>
</tr>
<tr>
<td><strong>Funding opportunities within the university</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Description of the above-mentioned funding opportunities within the university</strong></td>
<td>The university provides a limited number of excellence scholarships. Eligible candidates are students in advanced semesters who clearly show above-average results. Scholarships cannot be provided for new students.</td>
</tr>
</tbody>
</table>

### Requirements / Registration

#### Academic Admission Requirements

1. Bachelor’s degree in chemical or process engineering or another closely related field; your Bachelor’s degree is considered closely related if it contained:
   - thermodynamics
   - fluid dynamics
   - heat and mass transfer
   - mathematics

2. A minimum Bachelor’s grade of "good" according to the German scale. This is approximately GPA = 2.3 or ECTS = B ([calculate your GPA](#)). The admission depends on the number of competing applicants.

3. Adequate knowledge of English (see below)
Language requirements

Applicants will need to provide one of the following forms of evidence of adequate knowledge of English:

- **TOEFL** (normally at least 80 points Internet-based / 213 points computer-based / 550 points paper-based)
- Certificate of Proficiency in English (CPE), usually with a minimum grade of C
- Certificate of Advanced English (CAE), usually with a minimum grade of B
- **International English Language Testing System (IELTS)** (minimum score band 6)

Native speakers from the United Kingdom, Ireland, Canada, Australia, New Zealand, and the USA are exempt from these requirements. **Applicants from other countries must provide** one of the listed certificates even if English is an official language in their country or if English was the language of instruction in their Bachelor’s studies.

Application deadline

**Winter semester**

- 15 July (international Bachelor’s degree)
- 15 September (German Bachelor’s degree)

**Summer semester**

- 15 January (international Bachelor’s degree)
- 15 March (German Bachelor’s degree)

Application opening: 15 April (winter semester application), 15 October (summer semester application)

Submit application to

Otto-von-Guericke-Universität Magdeburg

C/o uni-assist e.V.

11507 Berlin

Germany

www.uni-assist.de

Services

Possibility of finding part-time employment

It is possible to find a part-time job as a research or student assistant at one of the faculties or at the university administration (maximum: 80 hours per month). Other opportunities are student jobs at different companies, restaurants, and shops. Job announcements for students are usually listed on our website under: **student jobs**.

Accommodation

The "Studentenwerk" (student union) in Magdeburg manages the on-campus halls of residence (mostly one- to four-room apartments). Currently, the monthly rent ranges from 220-350 EUR per room (approx. 12-35 square meters), depending on the size and furnishing. Rooms in the halls of residence are limited in number. The accommodation request can be found here: **accommodation form**.

The student union assists all new students in finding adequate accommodation, either on or off campus. Private accommodation is available on the Magdeburg accommodation market. However, fully furnished units are in somewhat short supply.

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

- Welcome event
- Buddy programme
- Tutors
Otto von Guericke University Magdeburg was founded in 1993 and is one of Germany's youngest universities. It was formed by a merger of the existing technical university, the teacher training college, and the medical school. The university now comprises nine faculties and about 14,000 students and is becoming increasingly more important as a centre for education and research. It plays an important role in the regional capital of Magdeburg, which is developing into a centre for business, scholarship, and culture. The university is a member of many organisations and committees. It is named after Otto von Guericke (1602-1686), Magdeburg's famous citizen, whose pioneering research into the vacuum brought him renown well beyond Germany's borders. The university aspires to teach and research in the tradition of this great scientist, philosopher, and engineer and to continue with his humanist work.

At the Otto von Guericke University Magdeburg, students can choose from 92 degree courses in various areas of study and specialisation. In addition to these, a range of postgraduate courses are offered. There are also many possibilities to combine different subjects across faculties. The conditions for students are ideal, with modern laboratories, experimental workshops, and clinics equipped with high-performance computers and an excellent staff-student ratio. The offer of a sound, thorough education, combining a high level of theoretical expertise with practical experience, makes Magdeburg an attractive choice.

In recent years, research at the university has gone through a decisive change, from applied research to innovative, fundamental research. Among the many areas represented, the neurosciences, immunology, non-linear systems, new materials, processes and products, computational visualistics, social transformation, communication, and culture deserve a special mention. The university hopes to make a
significant contribution to economic and social development in Magdeburg and the surrounding area through its research. Equally, disciplines such as the humanities, economics, and management, which have been established more recently at the university, have already made their mark on our research profile. Special emphasis is placed on close cooperation between teaching staff and students.

Magdeburg also attracts students because it offers accommodation with either a single bed or twin beds in its halls of residence.

Take a virtual trip through our international campus!

University Location

As the capital of the federal state of Saxony-Anhalt, Magdeburg is the seat of the state parliament and administration. The town is more than 1,200 years old and has about 230,000 inhabitants. Its excellent location on the River Elbe and its proximity to Berlin, Hanover, and Leipzig have proven to be a significant asset for the city. In the 19th century, the town developed into an important industrial and trade centre. Nowadays, another quite distinctive feature of Magdeburg is its considerable research and innovation potential at the university, the Max Planck and Fraunhofer research institutes, and the university of applied sciences, which are all located in close proximity to each other. Magdeburg offers an extensive park and garden landscape, a rich cultural and sports life, and an ideal atmosphere for study. Please visit the website: www.magdeburg.de.

Contact

Otto von Guericke University Magdeburg
Faculty of Process and Systems Engineering
Institute of Fluid Dynamics and Thermodynamics

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39106 Magdeburg

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cee-advisor@ovgu.de
Course website: http://www.fvst.ovgu.de/vst/en/home/Information+about+the+Study+Courses+CEE+and+PSEE/CEE.html

http://www.facebook.com/OVGU.Magdeburg
http://www.twitter.com/OVGUpresse
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