



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



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Master's degree



Digital Engineering

Bauhaus-Universität Weimar • Weimar



Overview

Degree	Master of Science (MSc)
Teaching language	<ul style="list-style-type: none">English
Languages	English (100%)
Programme duration	4 semesters
Beginning	Winter and summer semester
Application deadline	<p>Applicants who graduated outside of Europe: 15 July for the following winter semester or 15 January for the following summer semester</p> <p>Applicants who graduated in Europe and do not need a visa: 30 September for the following winter semester or 31 March for the following summer semester</p> <p>Please note: Current information on application modalities and deadlines can be found at our website.</p>
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	<p>The use of digitally connected systems is increasing in every industry. The developments currently unfolding under the buzzword "Industry 4.0" are essentially based on the comprehensive digital representation of every step in the value chains in industrial production. From the planning phase through to the design/draft and production process to monitoring products over their service life, virtual product and process models are networked with each other to advance development processes, raise product quality, and optimise production. That is why these developments require well-trained specialists at the interface of computer science and engineering.</p> <p>This course of study, which was jointly developed by participants from the chairs of Engineering and Computer Science and Media at the Bauhaus-Universität Weimar, is designed to provide you flexible and interdisciplinary training to meet the challenges you'll face in the professional world of</p>

tomorrow. The Digital Engineering Master's programme places a high premium on introducing you to current research issues that are jointly defined and supervised by industry partners at an early state. The Digital Bauhaus Lab is a state-of-the-art university research facility offering optimal conditions for success.

The consecutive Digital Engineering Master's programme combines academically specialised expertise from the Civil Engineering and Computer Science and Media disciplines. The coursework is centred on a practical transfer of methodical interrelations between engineering and computer science for complete digitalisation of design, manufacturing, and application processes. In this international Master's programme, you will use a range of modelling concepts as a basis for experimentation with complex processes in computer-aided modelling, simulation, and visualisation of engineering problems. In addition, you will deepen your knowledge of information theory methods of data generation and data handling. The aim is the representation, interpretation, evaluation, and optimisation of interdisciplinary processes in construction, mechanical engineering, and other industrial fields.

Course Details

Course organisation

The Master's programme comprises lectures, tutorials, seminars, and a research project as well as a Master's thesis. In the first to fourth semesters, a total of 120 credits must be earned in the following subject areas: Fundamentals (18 ECTS), Modelling (18 ECTS), Simulation and Validation (18 ECTS), Visualisation and Data Science (18 ECTS), Electives (12 ECTS), Research project (12 ECTS), Master's Module (24 ECTS).

For an overview about the offered modules in each area, please see: <https://www.uni-weimar.de/en/civil-engineering/studies/master-degree-programmes/digital-engineering/curriculum/>.

Research projects are offered by many professors each semester.

The elective module (12 ECTS) provides students with the opportunity to select courses from other degree programmes and departments alongside the general catalogue of courses offered within Computer Science and Media and Civil Engineering on a Master's level. The elective modules also allow for the inclusion of a range of courses from the fields of media studies, media art and design, and media management as well as the Department of Architecture and Urbanism, and the Department of Art and Design, or other fields in civil engineering.

The third semester is an ideal semester for students to spend abroad, since it offers greater flexibility with respect to the choice of classes. The fourth and final semester is reserved for the Master's thesis project.

The standard duration of studies for the Digital Engineering Master's programme is four semesters, leading to the award of a Master of Science degree. All Master's courses are offered in English.

For information about part-time studies, please contact the international counsellor for details: <http://www.uni-weimar.de/de/medien/international>.

A Diploma supplement will be issued

Yes

International elements

- Language training provided

Course-specific, integrated German language courses

Yes

Course-specific, integrated English language courses

Yes

Costs / Funding

Tuition fees per semester in EUR	None
Semester contribution	Enrolment fees amount to approx. 200 EUR per semester. This is a contribution to student services and the student council. It includes free regional transport by buses in Weimar, Erfurt, Jena and Gera as well as by regional trains in Thuringia, student discounts for meals at the university cafeteria and for theatre and museum tickets, access to the university sports complex and buildings. The additional fee for the "Thoska" student ID is 20 EUR (a one-time only fee).
Costs of living	<p>In Weimar, living expenses tend to be lower than in larger German cities. We recommend for students to budget about 861 EUR per month:</p> <ul style="list-style-type: none">• Health insurance approx. 100 EUR• Books and stationery approx. 70 EUR• Rent approx. 291 EUR• Meals approx. 200 EUR• Other expenses approx. 200 EUR
Funding opportunities within the university	Yes
Description of the above-mentioned funding opportunities within the university	<p>There are scholarships granted by the university as an institution. Additionally, the International Office grants scholarships that support international students and students going abroad for studies or internships.</p> <p>https://www.uni-weimar.de/en/university/studies/financing-your-studies/financing-opportunities/</p>

Requirements / Registration

Academic admission requirements	<p>The requirements for admission to the Digital Engineering programme are a Bachelor of Science degree in Civil Engineering, Mechanical Engineering, or Applied Computer Science (e.g. Computer Science and Media, Geoinformatics, Environmental Informatics) or a qualification recognised as academically relevant by the responsible examination committee. Applicants must also submit a one-page motivation letter in English.</p> <p>Proof of English language skills level B2</p> <p>Application FAQ: https://www.uni-weimar.de/en/civil-engineering/studies/master-degree-programmes/digital-engineering/application-procedure/</p>
Language requirements	<p>Applicants must provide proof of English at level B2 (Common European Framework of Reference for Languages – CEFR).</p> <p>This proof can be delivered by a successfully completed English-language Bachelor's degree or one the following tests no older than two years:</p> <ul style="list-style-type: none">• IELTS: minimum 6.5 (each component at least 6.0 points)• TOEFL: minimum 85 points (Internet-based), 564 points (paper-based), minimum 224 points (computer-based)• English for Speakers of other languages (ESOL) (Cambridge University) First Certificate in English (FCE) <p>Comparable certificates are subject to case-by-case review.</p> <p>In order to register for the Master's thesis, students must provide proof of English at level C1 (CEFR)</p>

and German at level A1. As part of our study programme, we offer advanced English classes up to level C1, which count towards the degree. The university offers German language courses as well.

Application deadline

Applicants who graduated outside of Europe: 15 July for the following winter semester or 15 January for the following summer semester

Applicants who graduated in Europe and do not need a visa: 30 September for the following winter semester or 31 March for the following summer semester

Please note: Current information on application modalities and deadlines can be found at [our website](#).

Submit application to

Applicants who graduated outside of Europe should apply online at <https://www.uni-assist.de/>.

Applicants who graduated in Europe and do not need a visa should apply online at <http://www.uni-weimar.de/online-bewerbung> or at: <https://weimar.gomovein.com/locallogin/5873933e547cd0744f8b4567/eng>.

Services

Possibility of finding part-time employment

A part-time job can be a good way to finance your studies. There are opportunities for students who are looking for teaching and research assistantships at the university or part-time jobs with local companies. Be sure to check the [job openings](#). Jobs are offered on the "Pinnwand" message board, on the job portal operated by the [Career Service](#) and by the "Studierendenwerk Thüringen" Student Service.

Weimar is a small town with few jobs for students. Although basic English is spoken nearly everywhere, as the historic city of Weimar attracts many visitors from all over the world, you have to speak German very well to have a chance to find a job.

International students are only permitted to work in Germany with a work permit.

Accommodation

You can find accommodation in Weimar through Thuringia's student services ("Studierendenwerk Thüringen"). More than 1,000 apartments in the city are administered by Thuringia's student services. These residences are at various locations, and they cater to different needs and preferences. Costs for accommodation range between 250 and 350 EUR per month depending on size and location. The university itself does not provide accommodation.

Further information: <https://www.stw-thueringen.de/en/housing/residential-homes.html>
Online application: <https://www.stw-thueringen.de/en/housing/application/online-application.html>

Typically, between two and up to five students share an apartment. Students have their own bedrooms and share a kitchen and a bathroom. Most rooms are furnished (bed, desk, chair, cupboard, shelf), but kitchenware and appliances are not included. Mentors for international students provide assistance in settling in during the first couple of days and also organise events.

Students advertise private and shared flats on the message board ("Pinnwand") on the university website: <https://www.uni-weimar.de/de/universitaet/aktuell/pinnwaende/bereich/wohnen/>.

Career advisory service

The Career Service of Bauhaus-Universität Weimar offers individual career consultation, etc.

<https://www.uni-weimar.de/en/university/studies/career-service/>

Support for international students and doctoral candidates

- Welcome event
- Buddy programme
- Specialist counselling
- Visa matters
- Tutors
- Accompanying programme

Bauhaus-Universität Weimar



Main building of Bauhaus-Universität Weimar

© Bauhaus-Universität Weimar, photo: Marcus Glahn

Bauhaus-Universität Weimar is a small and very international university with a highly distinctive spectrum of subjects. Situated in the historic city of Weimar, Germany, it originated from two progressive institutions: The "Weimar Saxon-Grand Ducal Art School" and the "Staatliches Bauhaus".

Different personalities from various countries have shaped the institution and developed ideas known and respected worldwide. At Bauhaus-Universität Weimar, we continue to follow a unique path that offers unparalleled opportunities by combining science and technology with art and design.

We see our university as a "Bauhaus of the 21st century" – open, experimental, innovative in the technical as well as in the aesthetic sense, and free from any imitation of the past. The university's main fields of study and research are architecture, civil engineering, art and design as well as media.

We offer an ideal space for creative academic and artistic work, supported by laboratories, workshops, studios, libraries, online teaching facilities and a favourable student-teacher ratio. Bauhaus-Universität Weimar is connected worldwide due to a large network of partners, which our students benefit from through programmes such as study abroad periods as well as international projects and excursions. Among more than 200 international partners are universities and schools in Ethiopia, France, Italy, Japan, Romania, the Russian Federation, Switzerland, and the USA.

Here are some important facts from the history of the university: In 1919, Walter Gropius created the "Staatliches Bauhaus" in Weimar. Four years later, he called for the search for the "new unity of art and engineering". That meant combining the vanguard of art and design with modern industry. With this approach, the Bauhaus became the most famous school of architecture, art, and design in the 20th century.

Our university flourishes through its experimental environment, familiar atmosphere and especially through the people, who study, research and work here at the university. The best way is to experience this special atmosphere yourself. Join our "Welcome to Weimar" online crash course or visit us, for example, at the annual Bauhaus Summer School and learn about what lies behind the following numbers:

Four faculties – Architecture and Urbanism, Civil Engineering, Art and Design, Media
47 degree programmes

Approx. 4,100 students including doctoral students
Approx. 27% international students
84 professors
More than 200 partner universities and more than 500 student exchanges

<https://www.uni-weimar.de/en/university/international/to-weimar/fulltime-students/preparing-your-studies/>



University location

The historic city of Weimar is a cosy town that has had a profound influence on Europe. This becomes most evident in architecture, art and design, music, and literature.

Weimar is situated right in the middle of Thuringia, the "green heart of Germany", and it is about 300 km from both the German capital, Berlin, and the German financial centre, Frankfurt am Main. Today, Weimar is a lively town with about 65,000 inhabitants and a town centre where you can reach everything within 15 minutes. The green areas of the town, such as the park on the river Ilm, include many sights, e.g. Goethe's summer house and the palaces of Tiefurt, Ettersburg, and Belvedere. Among many others, the famous German writers Johann Wolfgang von Goethe and Friedrich Schiller walked in the park along the River Ilm. The famous pianist and composer Franz Liszt stimulated modern music, and the architects Walter Gropius and Henry van de Velde initiated modernism.

Weimar has much to offer for art lovers and culture lovers, revellers, lovers of nature, and gourmets. There are more than 20 museums, three cinemas, a national theatre and various cabaret theatres, student clubs, concerts, and multifaceted cultural events such as the traditional folk event and the "Zwiebelmarkt", not to mention Thuringian delicacies like "Rostbratwurst" (sausage), "Rostbrätel" (marinated grilled meat), and "Thüringer Klöße" (dumplings). During the summer, Weimar hosts the annual Bauhaus Summer School, Yiddish Summer Weimar (featuring klezmer music), and several art festivals. Other highlights include the "backup" film festival and Master classes at the "Hochschule für Musik Franz Liszt". In the "International Student Barometer" survey, 95.4 percent of international students commend the exceptional quality of life in the city of Weimar. We hope to welcome you to Weimar soon!

Contact

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Disclaimer

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