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Master's degree



Master of Science in Communication and Information Technology

Ulm University • Ulm









Overview

Degree	Master of Science
Teaching language	• English
Languages	The engineering curriculum is taught entirely in English (100%). Intensive "German for Foreigners" courses are compulsory. The final thesis can be written either in English or in German.
Programme duration	4 semesters
Beginning	Summer semester
Application deadline	30 September for the following summer semester
Tuition fees per semester in EUR	Varied
Additional information on tuition fees	 Generally, the following people are not liable to pay tuition fees: German citizens, citizens of EU or EEA countries Most refugees Students who obtained their higher entrance qualification (normally the "Abitur") in Germany or a similar qualification from a German school in another country PhD/doctoral students Read more
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	The Communication and Information Technology degree programme offers specialisations in four tracks, Communications Circuits and Systems, Sensor Circuits and Systems, Communications

Engineering and Intelligent Systems. The specialisations offer a strong foundation in integrated

mixed-signal and RF circuits, RF engineering and radar design, wireless communication, signal processing, optical communication devices, and machine learning.

Those whose main interest is modern digital communication methods, such as coding, networking or advanced modulation techniques, will choose the **Communications Engineering** specialisation. In accordance with the research specialisation of the Electrical Engineering Faculty at the University of Ulm, mobile communication methods and systems are strongly emphasised.

Students interested in the underlying hardware aspects, such as microwave/millimetre-wave engineering, microelectronics and optoelectronic devices, will opt for the **Communications Circuits and Systems** specialisation, in which the emphasis is on the hardware aspects of modern communication systems. The excellent infrastructure in millimetre waves and microfabrication offers a unique combination of theoretical instruction with hands-on laboratory experience.

Students with a focus on integrated circuit and sensor design can opt for the specialisation in **Sensor Circuits and Systems**, in which mixed-signal and RF integrated circuits, mm-wave engineering, integrated sensors and sensor interfaces will be taught.

Software-oriented students with a background and interest in information system technology or computer engineering can specialise in **Intelligent Systems**. In this track, machine learning, pattern recognition, and secure system engineering are the focus.

Course Details

Course organisation

- A pre-semester course (with a duration of six weeks), starting in March of each year, offers an intensive course of German for daily life ("Survival German"), as well as an introduction to Germany in general and life at Ulm University in particular.
- A three-semester period of courses follows.
- The final semester is reserved for the research thesis (six months duration, full time).

The curriculum distinguishes between core subjects, specialisation subjects (according to the chosen specialisation), practical subjects and complementary subjects. Complementary subjects are both scientific-technical, leading to an increased level of specialisation in certain areas, and non-technical, for example, with a stronger emphasis on languages or soft skills.

The modules all contain lectures and classes. Some also use a blended approach, which additionally uses seminars and laboratory experiments.

A Diploma supplement will be issued	Yes
International elements	 Language training provided International guest lecturers
Integrated internships	An optional industrial internship (9 ECTS credits) can be completed as part of the programme; the third semester or the semester breaks are recommended for this.
Course-specific, integrated German language courses	Yes
Course-specific, integrated English language courses	No

Costs / Funding

Tuition fees per semester in EUR	1,500 EUR
Additional information on tuition fees	 Generally, the following people are not liable to pay tuition fees: German citizens, citizens of EU or EEA countries Most refugees Students who obtained their higher entrance qualification (normally the "Abitur") in Germany or a similar qualification from a German school in another country PhD/doctoral students Read more
Semester contribution	The semester contribution is 162 EUR per semester. For further details, visit the Office of the Registrar website: https://www.uni-ulm.de/en/study/organisation/tuition-fees/.
Costs of living	The cost of living in Ulm is estimated to be around 600 EUR to 850 EUR per month. For more information on the costs students in Ulm can expect, see the following website: https://www.uni-ulm.de/en/io/degree-phd/welcome/finances/living-expenses/.
Funding opportunities within the university	Yes
Description of the above- mentioned funding opportunities within the university	Students who perform well academically and/or participate in community service are eligible to apply for scholarships such as the "Deutschlandstipendium". Read more

Requirements / Registration

Academic adr	nission
requirements	;

- BSc, BEng or equivalent degree in electrical or electronic engineering or a closely related field; alternatively, a Dipl-Ing degree from a German Fachhochschule
- Above-average performance in the completed degree
- Good knowledge of the English language
- Previous employment in a related field is not a requirement, but will be taken into account
 positively in the admission procedure.

Language requirements

Proof of an adequate command of English at level C1 of the Common European Framework of Reference for Languages (CEFR) is required and can be shown via one of the following criteria:

- Higher education degree in a study programme with English as the sole language of instruction
- 7.0 points or more in the International English Language Testing System (IELTS); if both a score and a CEFR level are indicated, the higher indicated language proficiency level will be recognised.
- Certificate in C1 Advanced English or Certificate C2 Proficiency in English in the Cambridge exam
- 490 (listening), 455 (reading), 180 (speaking) and 180 (writing) points or more in the Test of

English for International Communication (TOEIC)

- 95 points or more in the Test of English as a Foreign Language Internet-based (TOEFL iBT or TOEFL iBT home edition)
- Level III or level IV of UNIcert®
- PTE Academic, with a score of 76 or higher
- CEFR C1 level or higher shown on the higher education entrance qualification
 A level of language proficiency that is partly at CEFR C1 or lower will not be recognised.

For further details, please refer to the statutes regarding the required language proficiency for studies at Ulm University.

Application deadline

30 September for the following summer semester

Submit application to

Please check the course website (http://www.uni-ulm.de/ci-tech/) for this.

Services

Possibility of finding parttime employment

Student assistant jobs are regularly offered by institutes in all faculties as well as in the central administration. Student assistants help with the preparation and execution of tutorials, work on research projects, or help with administrative jobs. Furthermore, several companies with strong ties to the university are located on campus (e.g. Mercedes-Benz Group AG, Continental, BMW Car IT, and more) and usually offer student jobs.

Read more

Accommodation

Accommodation in student dormitories is arranged for admitted students by the Communication and Information Technology programme office. Rental costs are between 285 EUR and 477 EUR per month.

Career advisory service

The Career Service at Ulm University serves as a valuable resource for students, offering a range of services and support to assist students in their career exploration, skill development, and successful transition from academia to the professional world.

The **Graduate & Professional Training Center Ulm ("ProTrainU")** focuses on supporting doctoral students and other young researchers in their careers and professional development.

The **Entrepreneurs Campus** at Ulm University offers opportunities for creative academics who want to develop their ideas into products or business models.

Support for international students and doctoral candidates

- Welcome event
- Pick-up service
- Visa matters
- Buddy programme

General services and support for international students and doctoral candidates

Non-specialist support offered by the International Office: https://www.uni-ulm.de/en/io/

Ulm University



Ulm University Main Entrance
© Foto: Universität Ulm

Founded in 1967, Ulm University is dedicated to world-class teaching and research in medicine and STEM. Its more than 10,000 students are distributed among the faculties of medicine, engineering, computer science and psychology, mathematics and economics as well as natural sciences.

According to a Times Higher Education ranking based on research and teaching excellence, Ulm University is ranked 14th worldwide among all universities founded in the "Golden Age of Higher Education", an era between 1945 and 1967 that is characterised by rapid university expansion. In a broader perspective, Ulm University is ranked 193rd worldwide among all universities regardless of their age and thus belongs to the 20 best universities in Germany, according to another recent analysis by Times Higher Education.

Ulm University's subject range concentrates on the STEM fields (mathematics, information technology, natural sciences and technology). The latest research findings are swiftly incorporated into the curriculum, and this always ensures state-of-the-art subjects and content. Ulm University attaches great importance to the ongoing refinement of its high standards in teaching, which are defined and anchored in its teaching mission statement. Moreover, Ulm University's continuing academic education offerings provide working professionals with specialist knowledge and management skills.

As a young research university, Ulm University is oriented towards the global challenges of the futureStrategic and interdisciplinary research themes are contributing to improvements in the areas of ageing, sustainability, and technologies of the future as well as human health and well-being. Great success in the acquisition of third-party funding and numerous larger collaborative projects, such as collaborative research centres and a Cluster of Excellence, are all testimonies to the university's research strength.

Ulm University is the centre of and driving force behind the "Science City Ulm", an innovative teaching, research and science hub. There are numerous start-ups, development centres of renowned companies such as Siemens, Nokia, Mercedes-Benz Group AG, BMW and Continental, as well as clinics and non-university research institutions that are well-connected with the university. As a result of close collaborations with these partners, students benefit from access to contract lecturers from the industry as well as invaluable opportunities for research projects, internships and final theses.

Ulm University is a **founding member of YERUN**, a network of highly ranked young European research universities and it hosts the German headquarters of Germany's largest transnational education project, the German University in Cairo.

For more information on Ulm University, see https://www.uni-ulm.de/en/or watch this video about the student experience at Ulm University.



University location

Ulm is **one of the most innovative, dynamic, fast-growing and liveable cities in Germany**It is located in the heart of southern Germany near Stuttgart, Munich, the Alps and Switzerland.

With a population of more than 120,000 people, Ulm has anideal size for living, studying and working The city offers a mix of medieval

and modern architecture and a great variety of cultural, sports and leisure activities.

A healthy mix of medium-sized businesses and global players, high-tech and trade, and innovation and tradition makes Ulm and the greater Ulm area one of Germany's economically most dynamic regions

A literally outstanding landmark is the "Muenster", Ulm's cathedral. The Muenster has the world's highest steeple, which measures 161.5 metres (530 ft).

Ulm is also the birthplace of Albert Einstein (1879-1955), the world's most famous scientist.

Read more

Contact

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Course website: https://www.uni-ulm.de/ci-tech/

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https://twitter.com/uni_ulm?lang=en

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Editor

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