



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



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Master's degree



ITECH
Integrative Technologies &
Architectural Design Research
M.Sc. Programme

Integrative Technologies & Architectural Design Research (ITECH)

University of Stuttgart • Stuttgart



Overview

Degree	Master of Science
Teaching language	<ul style="list-style-type: none">English
Languages	All programme courses are instructed in English.
Full-time / part-time	<ul style="list-style-type: none">full-time
Programme duration	4 semesters
Beginning	Winter semester
Application deadline	The application deadline for studies commencing in October is 15 February.
Tuition fees per semester in EUR	Varied
Additional information on tuition fees	EU citizens do not pay tuition, whereas non-EU citizens pay a tuition of 1,500 EUR per semester.
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	<p>The Integrative Technologies & Architectural Design Research MSc programme is a multidisciplinary, research-oriented, experiment-based programme shaped around contemporary aspects of the built environment and practice.</p> <p>The goal of the ITECH programme is to prepare a new generation of students from different disciplines for the continuing advancement of technological and computational processes in development of the built environment through merging the fields of design, engineering, construction and natural sciences. Combining an intensive, critical and analytical approach to computational design simulation and fabrication processes, the ITECH programme is focussing on challenging the design space boundaries of current contemporary architectural and engineering practice. It seeks to provoke a re-examination of techniques, methods and theories of design in</p>

relation to the fields of engineering, robotics, digital manufacturing, material science and biology.

All programme courses are instructed in English. The modules of the core ITECH programme are taught by researchers at ICD and ITKE with oversight of Professor Menges and Professor Knippers and input from visiting researchers and scientists.

Technological progress has always been a catalyst for design innovation in architecture and construction. Today, technological advancements across multiple disciplines suggest a profound transformation of the way the future built environment is conceived, designed and materialised. New alliances are being forged between the fields of design, engineering and natural sciences, leading to novel multidisciplinary and multifaceted design cultures. Design plays a critical role in this transformation: Here, the notion of design is extended beyond the design of space, surface and structure to the design of processes, systems and reciprocities.

The ITECH programme investigates the realm of integrative technological advancements as novel potentials in architecture and construction. It seeks to prepare students for the complex contemporary conditions found in the building industry, which is facing stringent environmental and economic challenges while experiencing the emergence of new technical opportunities at an unprecedented speed. Thus, the Master's programme is inquiry-oriented, experiment-based and shaped around contemporary aspects of design research. Students will engage in cutting-edge computational architectural design techniques, structural and climate engineering and advanced fabrication and construction technologies. The interrelation of such topics will be exposed both as a technical and an intellectual venture.

The programme offers the opportunity to study with one of the leading teams for technological and computational design research. As a team, the partner institutes strive to present students with a cutting-edge educational experience that fosters the development of one's individual interests in architectural design, structures, technology and computation.

If you are an architect, engineer, materials scientist, biologist, or other with a deep interest in how the design and fabrication of our built environment will develop alongside increasingly powerful computation and fabrication technology, the ITECH MSc programme is for you.

Course Details

Course organisation

The curriculum is based on the German semester system: the winter semester typically takes place between mid-October and mid-February with a two-week Christmas break, while the summer semester takes place between mid-April and mid-July. It is important to note that this is a full-time programme. Coursework and studio submissions take place outside of these lecture times.

First year - During the first year, the curriculum is led by two design research projects that are developed as a collaborative undertaking between the involved institutes. The introduction to relevant topics in computational design, engineering and construction is provided through two supplementary seminar modules per semester. In addition, a series of regular colloquia will expose the students to presentations in cutting edge research by leading experts in the related fields. Both, seminar modules and expert colloquia are structured to provide relevant support for the project development.

Second year - The third semester is aimed at laying the foundation for a promising Master's thesis through a thesis preparation project. This main module is supported by two supplementary seminar modules and an elective 3 ECTS course of particular relevance for the planned research thesis. The entire fourth semester is dedicated to the development of the Master's thesis.

The ECTS structure of the programme is equivalent to the faculty's general Master's programme Architecture and Urban Planning. This offers students the additional opportunity to also attend courses at some of the other renowned institutes at the Faculty of Architecture.

» [PDF Download](#)

International elements

- International guest lecturers
- Study trips
- Projects with partners in Germany and abroad

Course-specific, integrated German language courses	No
Course-specific, integrated English language courses	No

Costs / Funding

Tuition fees per semester in EUR	Varied
Additional information on tuition fees	EU citizens do not pay tuition, whereas non-EU citizens pay a tuition of 1,500 EUR per semester.
Semester contribution	Approx. 200 EUR per semester
Costs of living	Living expenses amount to about 940 EUR per month. You will have to demonstrate that you have sufficient finances to cover your living expenses for 12 months. EU citizens may apply for state-guaranteed loans during the time of enrolment. For more information, see the links on our websites.
Funding opportunities within the university	Yes
Description of the above-mentioned funding opportunities within the university	Please check our website on financial aid and scholarships: https://www.uni-stuttgart.de/en/study/living-in-stuttgart/finances/index.html

Requirements / Registration

Academic admission requirements	<p>The programme is open to students with a previous Bachelor's degree in one of the following fields:</p> <ul style="list-style-type: none"> • architecture • civil/structural engineering • urban planning • biology or biomimetics • environmental engineering • similar engineering or natural science degrees <p>The programme is structured as a two-year professional Master's degree programme for students with a Bachelor's degree from a three-year programme. However, students with a suitable Bachelor's degree from a four-year programme or students who already hold a Master's degree may apply for advanced standing after enrolment – subject to review by the university. Such applicants will be considered for placement in the third semester of the programme.</p> <p>Application process information and admission requirements can be found here: https://www.itech.uni-stuttgart.de/program_agenda_and_application/how-to-apply/</p>
Language requirements	Applicants must provide proof of their English skills: IELTS (band 6) Certificate or TOEFL (minimum

score: 550 paper based, 213 computer-based, 79 Internet-based), CAE or CPE.

Native speakers and students who passed the entirety of their undergraduate studies in Australia, Canada, Ireland, New Zealand, the US or the UK are exempt from this rule.

Application deadline

The application deadline for studies commencing in October is 15 February.

Submit application to

Applications are accepted once per year. The application, which includes a portfolio of work and a motivation letter is submitted by 15 February. Admission decisions are announced in April for enrolment in the following October. For more information, see: <https://www.itech.uni-stuttgart.de/>

Services

Possibility of finding part-time employment

Please be aware that it may be very challenging to finance your whole studies by working. Non-EU citizens are allowed by law to work for a maximum of 120 days per year. Only students who are employed by the university in one of the institutes or departments (Studentische/Wissenschaftliche Hilfskräfte) are exempt from this regulation, but other restrictions apply.

For more detailed information, please consult our websites:

[International students: Financing your studies](#) and [Working during your studies](#)

Accommodation

Both the campus in Stuttgart-Vaihingen and the campus in the centre of Stuttgart have on-site halls of residence. Dorm rooms (ranging from 240 to 350 EUR per month) are furnished. Some are equipped with a sink, and all have access to kitchen and sanitary facilities, telephone and Internet. From the campus in Stuttgart-Vaihingen, the city of Stuttgart can be reached by suburban railway within ten minutes.

Support for international students and doctoral candidates

- Welcome event
- Buddy programme
- Tutors
- Accompanying programme
- Cultural and linguistic preparation
- Pick-up service
- Specialist counselling
- Visa matters
- Help with finding accommodation
- Support with registration procedures

Supervisor-student ratio

1:1 (students : ICD/ITKE researcher)



Video about the Master's programme Integrative Technologies and Architectural Design Research (ITECH)

Get an insight into the Master's programme Integrative Technologies and Architectural Design Research (ITECH) - in just 120 seconds. Two students from the University of Stuttgart explain what is special about this programme and why they chose Stuttgart.

» more:
<https://www.youtube.com/watch?v=mr4qnI9LIFY>

University of Stuttgart

Intelligent systems for a sustainable society

The University of Stuttgart is one of the leading technically oriented universities in Germany with global significance. Located centrally in an economically strong region with vast cultural integration, the university sees itself as a hub of university-based, extramural and industrial research. Furthermore, it takes a role as a leader in research-based teaching, focused on quality and holism. The university is dedicated to researching and strengthening the interfaces between technology, society and culture in an interdisciplinary manner, defined as the "Stuttgart Way". This means the integration of engineering, natural sciences, humanities and social sciences based on the fundamentals of cutting-edge research at a disciplinary level.

Excellent research and teaching

The University of Stuttgart implements innovative concepts in research and teaching in order to provide knowledge and strategies for a meaningful and sustainable development. It focuses on basic research that is both knowledge-oriented and application-related. To facilitate this research, the university is actively part of regional, national and international research networks.

The university is committed to the principle of unity between research and teaching. Students acquire knowledge, expertise and the power of judgement, in accordance with the guidelines of scientific research and awareness. The university fosters fascination for the sciences, supporting its students and junior researchers at all stages of their careers. It promotes independent thinking and provides an environment for responsible action. In doing so, it educates individuals into exceptional experts who think in an integrative and global manner and act responsibly in the sciences, economics and society.

A powerful region

Founded in 1829, at the beginning of the Industrial Age, the University of Stuttgart continues to prepare the way for innovation within an economically and scientifically powerful region and contributes to the economic success and prosperity of our society. This process combines the requirements of a social and cultural change, which allows an early and extensive input of social interests in research and

design as well as teaching and further education.

Open-mindedness

The University of Stuttgart stands for open-mindedness, individuality and community spirit. It brings together students that are eager to learn, highly motivated employees, outstanding teachers, and excellent researchers as well as visionary thinkers and inventors. By means of its culture of integration, the university creates and conveys knowledge for shaping the future of our society.



University location

The University of Stuttgart is nestled in one of Europe's most vibrant industrial regions. This fosters many forms of interdisciplinary collaboration – for instance, in numerous Collaborative Research Centres (also known as CRC or sometimes CRC/TRR) and in application-oriented research assignments. The University of Stuttgart sets up a close relationship and a successful transfer of knowledge and technology between its research institutions and business enterprises in the region and beyond. This very practical orientation benefits research and teaching. At the same time, economic players profit from rapid access to new scientific knowledge and contact to experts in their specialised fields. There are numerous possibilities of collaboration for businesses. Furthermore, the university also maintains a close relationship with non-university research institutions such as the Max Planck Society, the Fraunhofer Society, the German Aerospace Center and the German Literature Archive Marbach. Thus, the optimal prerequisites for cutting-edge research at the highest level are all to be found in Stuttgart.

Contact

University of Stuttgart

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🌐 Course website: <https://www.itech.uni-stuttgart.de/>

📘 <https://www.facebook.com/itechstuttgart>

📷 <https://www.instagram.com/itechstuttgart>

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International Programmes in Germany - Database

www.daad.de/international-programmes

www.daad.de/sommerkurse

Editor

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German Academic Exchange Service

Section K23 – Information on Studying in Germany

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www.daad.de

GATE-Germany

Consortium for International Higher Education Marketing

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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