Track

Building Technology

Focus on innovation and sustainability

The Building Technology track encompasses a broad spectrum of engineering and architectural design skills that lead to one of the dominant professions of the future: the sustainable designer. Through focusing on structural, façade and climate design, students learn how to contribute to smart buildings that are sustainable, comfortable and environmentally intelligent. The emphasis of this programme is on the design of innovative and sustainable building components and their integration into the built environment.

This programme stands out internationally because of its integration of architectural design with technical disciplines, filling the niche between architecture and engineering. Rather than focusing on one or two specialisations, students investigate the whole breadth of building technology, looking at climate design, façade design and structural design, producing designers that know how engineers work. Students have the option to participate in the TiSD colloquium, an interdisciplinary, universitywide course in engineering for sustainable development, which leads to the special annotation Technology in Sustainable Development (TISD, or TiDO in Dutch) to their degree. This includes the additional TiSD course ‘Engineering for sustainable development’ where students participate in an intensive workshop, exploring, discussing and experiencing sustainability. Prospective students must show both technical and architectural skills, interest and understanding.

The programme is well suited for architectural graduates looking to strengthen their technical qualifications and those with a technical background that want to strengthen their design abilities. The Building Technology track is one of five specialisation tracks within the Architecture, Urbanism and Building Sciences master programme. On graduation, students receive Master of Science degree in Architecture, Urbanism and Building Sciences (Building Technology track).
Curriculum Building Technology

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<tr>
<th>First year</th>
<th>2nd semester</th>
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<tbody>
<tr>
<td>1st semester</td>
<td>2nd semester</td>
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<tr>
<td>Innovation &amp; Sustainability (6 ECTS)</td>
<td>Choose two electives from:</td>
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<tr>
<td>Bucky Lab Seminars + (12 ECTS):</td>
<td>• Technoledge Structural Design (6 ECTS)</td>
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<td>• Research Methodology</td>
<td>• Technoledge Facade Design (6 ECTS)</td>
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<tr>
<td>• Building Physics</td>
<td>• Technoledge Climate Design (6 ECTS)</td>
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<td>• Structural Mechanics</td>
<td>• Technoledge Design Informatics (6 ECTS)</td>
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<td>• Material Science</td>
<td>• Zero Energy Design (6 ECTS)</td>
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<td>• Bridge Design (6 ECTS)</td>
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<td>Free electives (6 ECTS)</td>
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<tr>
<td>Bucky Lab Design (12 ECTS):</td>
<td>Choose one design project from:</td>
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<tr>
<td>Design</td>
<td>CAD</td>
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<td></td>
<td>• EXTREME* (12 ECTS)</td>
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<td>• MEGA (12 ECTS)</td>
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<table>
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<th>Second year</th>
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<td>3rd semester</td>
<td>4th semester</td>
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<tr>
<td>SWAT Studio (15 ECTS)</td>
<td>Sustainable Design Graduation Studio (45 ECTS)</td>
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* is offered in the fall semester  
ECTS = European Credit Transfer System  
One academic year = 60 ECTS (1680 hrs study, 1 ECTS 28hrs)  
Total amount of credits MSc programme = 120 ECTS

For more information on all courses, please visit: [www.studyguide.tudelft.nl](http://www.studyguide.tudelft.nl)

Programme
The Building Technology track focuses on research and innovation, dealing with the newest technology and interacting with the current market. This programme offers a balance between applied research and design of buildings and building elements. Core building technology subjects are offered in the first semester, with students given the opportunity to specialise in different building technology electives in the second. The final year begins with an on-site workshop before concluding with individual graduation projects.

Programme specialisations
The Building Technology track offers one graduation studio: sustainable design. In this studio students are given the possibility to specialise in one of three themes that are related to sustainability and not strictly separated from each other.

- **Structural Design** deals with innovation in building structures and materials, employing tools such as prototyping and computational design of bearing structures.
- **Climate Design** investigates smart and bioclimatic design, with a focus on closing material cycles, novel building services, energy performance, and user comfort and health.
- **Facade Design** concerns innovation in building envelopes, investigating different typologies, materialisation, climate and user-responsive façades, fabrication and assembly of façade systems.
Curriculum
In the first semester students develop core technical knowledge, following an innovation and sustainability course and the Bucky Lab seminars and design studio, giving them the opportunity to construct their own project in a 1:1 scale. In the second semester students can choose from technical electives offered by the building technology track and they can choose free electives for the purpose of broadening their academic perspective, knowledge and skills. They also follow EXTREME or MEGA, projects for integrated design. In the first quarter of the third semester the SWAT studio takes the form of an intense two-week workshop, focusing on a particular location from which students develop individual projects. In the final semester students work on a graduation project.

Career prospects
Building technology graduates are in high demand as the construction industry is lacking designers that bridge this gap between the architectural and engineering disciplines. Given that graduates can make decisions based on calculations and integrate them into architecture, they can direct structural engineers and manage complex processes. Graduates are sought after for architectural offices, engineering offices and specialised façade manufacturers.

While doing a Bachelor in Architecture in Austria I realised that I was most passionate about the technical and technological aspects of construction. I started looking for a master programme that could bridge the gap between architecture and engineering and I was very happy to find the Building Technology track. The track did not only teach me new knowledge but as well, and most importantly, a new way of thinking: a rational mindset towards problems and a complete new overview on research and designing methods. At Building Technology the students are encouraged to study in a very independent way, to set their own goals and manage their schedules. This might be a radical change for many international students, but it has been an extremely positive change for me. Students are followed on an one-to-one basis, and I always found support when I needed it. This approach allows me to grow and evolve as a professional and as an individual, it gives me confidence and the necessary preparation to leave the university and find a job.

In the Master track Building Technology, students are inspired to find their own field of interest, in order to excel in a specific topic. I took the specialization in Technology in Sustainable Development and decided to focus on energy efficiency. For me, this specific preparation not only granted employment, but also opened the possibility of a further post-graduate position.
Admission requirements and application procedures
This is a summary of the requirements only. They are subject to change. Therefore, always consult the websites indicated which give the latest and definitive instructions.

BSc degree from a Dutch University
In most cases, if you hold a BSc degree that is closely related to the Master’s programme you are applying for, you will be admitted. However, if the Master’s programme does not follow directly from your undergraduate programme, you will be required to complete a bridging programme. To see which Master’s programmes are open to you on completion of your Bachelor’s degree from a non-technical Dutch university go to www.studiekeuze123.nl. If you completed your Bachelor’s at a technical university, go to www.doorstroommatrix.nl.

Degree from a Dutch university of applied sciences
An HBO bachelor’s degree does not qualify you for direct admission to a TU Delft master’s degree programme. To start a Master’s degree programme, you will first need to complete a supplementary programme in order to bring your knowledge to the required level. This programme starts in February. Details can be found at: www.aubs.msc.tudelft.nl/hbo

International applicants
You must:
- hold a Bachelor’s degree from a respected university (or proof that you are soon to complete one) in a main subject closely related to the MSc programme to which you are applying;
- have achieved a bachelor cumulative grade point average (CGPA) of at least 75% of the scale maximum, unless specific requirements are defined for the country in which you obtained your Bachelor’s degree;
- meet our English language requirements;
- submit a motivation essay, reference letters and an extensive curriculum vitae;
- include examples of your work.

The requirements are given on the TU Delft admissions and applications website: www.admissions.tudelft.nl

More specific information about the requirements of each programme and track are given on the faculty website: www.aubs.msc.tudelft.nl/en

The application period starts on 1 October and closes on 1 April. All applications are made online through the TU Delft website and require an application fee. It usually takes six to eight weeks before the admission decision can be communicated to you. You are advised to apply as early as possible.

For further information
Please visit the webpage for all details, complete requirements, deadlines and contact information:
www.aubs.msc.tudelft.nl/en

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