As a famous scientist (Loren Eiseley) said several decades ago: ‘If there is magic on this planet, it is contained in water’. Without water, life on Earth would be impossible. At the same time, water can be life threatening. Just think about the destructive force of rivers that burst their banks or the polluted drinking water wells that take the lives of two hundred children every hour worldwide. Water is our friend and our foe. That is why it is crucial to understand this natural element and deal with it the best and most ingenious way we can. For example, did you know that groundwater can take as long as a human lifetime to move just one kilometre? Or that water regulates the temperature on earth? And that no less than ten per cent of the Dutch demand for electricity can be won from water? The track Water Management teaches you how this can be achieved and helps you to develop the next groundbreaking innovations in the field of water.

Programme
The MSc track Water Management focuses on the understanding of natural surface and groundwater currents and the management, control and utilisation of water currents for society. This comprises both surface and groundwater, precipitation and, for example, wastewater. Furthermore, Water Management does not only investigate the quantity of water, but also focuses on the quality of surface and groundwater. If you are interested in the behaviour of water, how we can control water flows (using the newest technologies and applications), how we can use wastewater to provide energy, or how we can improve the production of drinking water, this track will suit you perfectly!
# Curriculum Water Management

**First Year**

<table>
<thead>
<tr>
<th>Compulsory courses (16 EC)</th>
<th>Specialisation Courses (40 EC)</th>
<th>Climate Change: Science and Ethics (4 EC) or Philosophy, Technology Assessment and Ethics for Civil Engineering (4 EC)</th>
</tr>
</thead>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Internship (10 EC) *</th>
<th>Multidisciplinary Project (15 EC) *</th>
<th>Additional Graduation Work (10 EC) *</th>
<th>Electives (10 EC) *</th>
<th>MSc Thesis (40 EC)</th>
</tr>
</thead>
</table>

* You must choose two out of four

---

**Programme specialisations**

Six specialisation profiles have been defined for MSc Water Management. The specialisation profiles are related to the preference of the student for a certain specialisation and thesis subject. The department will give adequate guidance with regards to this process during an intake discussion. The composition of the package of specialisation courses is subject to approval by the relevant professor.

**Hydrology** focuses on the science that encompasses the occurrence, distribution, movement and properties of the waters of the Earth and their relationship with the environment within each phase of the water cycle (a continuous process by which water is purified by evaporation and transported from the earth’s surface to the atmosphere and back to the land and oceans).

**Geohydrology** teaches you how to develop innovative and powerful tools for the modelling of groundwater systems. Conceptual models are tested by formulating and implementing mathematical models, and performing calculations. If the computations cannot confirm the perceived flow pattern or effect, then it probably does not exist.

**Water Resources Management** conducts research on irrigation systems, polders, urban areas and entire river basins. Our aim is to support water management practices by increasing understanding of water management processes, providing know-how and expertise, and offering an independent view.

**Urban Drainage and Water Management** concentrates on urban tasks and (recently) built urban plans for inner city interventions, for restructure and transformation of locations at former harbour and industrial sites and for new locations.

**Drinking Water Engineering** teaches the technological backgrounds of the treatment processes applied for the production of drinking water. The treatment processes are demonstrated with laboratory experiments. Study goals: Knowledge of technological basics and the design parameters of drinking water treatment processes.

**Wastewater Treatment** deals with the background and application of various wastewater treatment technologies. Both high-tech and low-tech systems are discussed, and which of these are applicable to industrialised or developing countries. Anaerobic treatment systems that focus on resource recovery are discussed extensively. Modern technologies for (extensive) nutrient removal/recovery are dealt with, as well as membrane techniques for wastewater treatment.

---

Dr. Erik Mostert, Master’s Coordinator Water Management

---

Worldwide, water problems are increasing. The demand for water is rising, the world’s population is growing and we are faced by challenges such as climate change and pollution. In Delft, you will acquire the knowledge and develop the skills that you need to address these challenges. You will first get an overview of the field and then you will get plenty of freedom to focus on what you’re really interested in: drinking water, irrigation, groundwater, et cetera. There is a lot of choice, and the level is high. According to the Stockholm International Water Institute and Elsevier, Delft ranks number 1 in the Netherlands and number 4 worldwide in the field of water management. You will have ample opportunities to go abroad for longer or shorter periods, and if you wish you can follow some or all of the courses online. And last but not least, there is a very active student association.
Examples of graduation projects
- A New Perspective on Continental Moisture Recycling – Ruud van der Ent
- From Pollutant to Fuel - Marij Zwart
- Treatment of Cooling Tower Blowdown Water – Raluca Olaru
- Bridging the Information Gap between Scientists and Decision Makers in the Eastern Nile – Marlies Barendrecht
- Implementation of the Greater New Orleans Urban Water Plan – Annabel Visschedijk

Career Prospects
Climate change; the desire for a more sustainable world; the United Nations sounding the alarm bells to warn us about the future scarcity of water; the development of new techniques that allow us to manage water more ingeniously. Needless to say, there is no shortage of jobs in the field of water and our students have no trouble finding jobs whatsoever. Consultancy organisations; governmental institutions; utility companies; water research institutes; NGOs or water boards: the demand for new expertise is high and will remain high.

What particularly appeals to me about the programme is the relevance of the themes that you address. Just watch any news bulletin and you’ll see the challenges facing the world as a result of flooding, drought and rising water levels. Students who feel the urge to produce solutions for these issues are at the right place in the Water Management programme. During the first weeks, you are immediately challenged to develop a water system for Africa or a solution that will improve the water quality in the Rhine. Hands-on and stimulating! That’s what characterises the programme. You get a lot of practical training and you also have the freedom to decide in which direction you wish to specialise. But whatever you choose, you immediately see the theory in practice when you walk or cycle along the canals of Delft at the end of the day. A world opens up for you, also in terms of different cultures. The programme has a strong international character. By interacting with other cultures, you learn new ways to generate solutions. And that is exactly what we need to produce groundbreaking solutions for our global water problems.
Admission requirements and application procedures

Dutch BSc degree
If you hold a Dutch BSc degree that is closely related to the Master’s programme, you can be admitted directly. However, if your undergraduate programme is not closely related to the Master’s programme you will be required to take additional courses in what is called a bridging programme. This may be a standard programme or it may be tailored to your specific situation.

To see which Master’s programmes are open to you on completion of your Bachelor’s degree at a Dutch university, go to www.doorstroommatrix.nl. Applications through Studielink: www.tudelft.studielink.nl.

Dutch HBO degree
An HBO Bachelor’s degree does not qualify you for direct admission to a TU Delft Master’s programme. You will first need to complete a supplementary programme in order to bring your knowledge to the required level. You can do this during your HBO programme by completing a bridging minor, or by means of a bridging programme after completing your HBO diploma.

Entrance requirements for Mathematics and English (some exceptions) apply for both the bridging minor and the bridging programme.

See www.hbodoorstroom.tudelft.nl for detailed information. Applications through Studielink: www.tudelft.studielink.nl.

International applicants
To be considered for admission to an MSc programme you will need to meet TU Delft’s general admission requirements.

1. A University Bachelor’s degree (or proof that you have nearly completed a Bachelor’s programme) in a main subject closely related to the MSc programme to which you are applying, with good grades on the key courses.

2. A BSc Cumulative Grade Point Average (CGPA) of at least 75% of the scale maximum.

   - A TOEFL (Test of English as a Foreign Language) with an overall Band score of at least 90 and a minimum score of 21 for each section. Please note that we only accept the TOEFL internet-based test.
   - or an IELTS (academic version) with an overall Band score of at least 6.5 and a minimum of 6.0 for each section.
   - or proof that you have passed the University of Cambridge ‘Certificate of Proficiency in English’ or the University of Cambridge ‘Certificate in Advanced English’ with a minimum grade B.

For international students, the application period starts October 1 and closes on April 1. To start up an MSc application, please complete the online application and pay the refundable application fee of €100. Then you will receive an email with the link to upload the required documents.

For more information about the application procedure and studying at TU Delft in general, go to www.admissions.tudelft.nl.

Introduction week
All international students will be welcomed with the award winning introduction programme. The introduction consists of a variety of workshops and projects, during which you will get to know other international students, visit the highlights of Delft and learn the ins and outs of the TU Delft campus. After this very interesting and fun week, you will be introduced to the CEG faculty. You will receive helpful information about the Dutch education system and meet the fellow students from your programme during a variety of social and educational activities.

For further information
Please visit the webpage for all details, complete requirements, deadlines and contact information:
www.cive.msc.tudelft.nl
Dr. Erik Mostert
Master’s Coordinator Water Management
T +31 15 2787800
E e.mostert@tudelft.nl

Karel Karsen
Academic Counsellor
T +31 (0)15 278 33 37
E K.O.Karsen@tudelft.nl

Further information for international applicants
International Office CEG
E InternationalOffice-CEG@tudelft.nl

CEG Faculty
Stevinweg 1
2628 CN Delft
www.ceg.tudelft.nl

https://www.facebook.com/TUDelft
@DelftUniversity
instagram.com/TUDelft
www.campus.tudelft.nl

November 2015