

Civil Engineering and Applied Earth Sciences

Environmental Engineering

MSc Programme



Creating a sustainable and pleasant living environment is one of the biggest challenges humanity faces today. TU Delft Environmental Engineers are researching solutions. They tackle challenges in the range of climate change, finite resources and air, soil and water pollution by human activities. By understanding the disturbed natural cycles on Earth, the Environmental Engineer can develop technological interventions to restore these cycles and to let society benefit from a circular economy.

Degree	Master of Science
Starts	September
Type	full-time
Credits	120 ECTS, 24 months
Language	English
Application deadline	1 April: International students 1 July: Dutch degree
Tuition fee	€ 18.750 (non EU) € 2.168 (EU)
Scholarships	scholarships.tudelft.nl

Programme

The Environmental Engineering MSc track focuses on multidisciplinary technical solutions for environmental challenges. The aim is to understand the interaction between man and the natural environment and closed-loop recycling of water and other resources. Processes are studied in a fundamental way, from different angles, leading to a design of new process technologies. The objective is to teach students, who will subsequently produce ground-breaking solutions for a high quality of living with clean water and a healthy environment. Gaining fundamental understanding of the various scientific areas mentioned, and having insights in how

these areas relate, will lead to the largest contribution for society and science by solving environmental problems in climate and pollution. The unique feature of the Environmental Engineering track is that it brings together all this knowledge. It is a technical engineering programme in which, besides obtaining a sound scientific basis, you will also acquire a wide range of engineering skills. The track covers a broad field: water from the urban and global water cycle, soil processes, solid waste processing and climate. Special attention will be devoted to underlying processes, mathematical descriptions, model-based substantiation and measuring (including remote sensing) environmental

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FIRST YEAR	SECOND YEAR
TRACK-SPECIFIC COURSES (TOTAL OF 56 EC) <ul style="list-style-type: none"> FUNDAMENTAL ENVIRONMENTAL ENGINEERING COURSES (17 EC) APPLIED ENVIRONMENTAL ENGINEERING COURSES (4 EC) SPECIALISATION COURSES (26 EC FOR ET, 24 EC FOR ES) ELECTIVE COURSES (9 EC FOR ET, 11 FOR ES) 	SPECIAL SUBJECTS (CHOOSE ONE) <ul style="list-style-type: none"> ADDITIONAL GRADUATION WORK, RESEARCH PROJECT (10 EC) ELECTIVE COURSES(10 EC) INTERNSHIP (10 EC) MULTIDISCIPLINARY PROJECT, CIVIL ENGINEERING CONSULTANCY PROJECT (10 EC)
COMPULSORY ETHICS COURSE: CLIMATE CHANGE: SCIENCE & ETHICS (4 EC)	SPECIALISATION-SPECIFIC ELECTIVE COURSES (10 EC)
	MSC THESIS (40 EC)

processes and cycles. In addition, a great deal of attention will be paid to designing technical solutions for disruptions in the water cycle due to human actions. This approach distinguishes programmes at TU Delft from those at other universities. Furthermore, this programme mobilises internationally renowned researchers in the field of Environmental Engineering from various faculties at TU Delft. They inspire the students and motivate them to perform high-level research and translate the latter into working practice, leading to innovations in the field of environmental technology and science.

Specialisations

As specialisation you choose either the technology variant or the science variant of the programme.

In the **technology variant**, the local influence and restoration of coupled (disrupted) water and soil processes are studied using technological interventions. The subjects addressed include treatment processes, water and health parameters and design techniques as well as the urban water and nutrient cycle. This specialisation includes environmental biotechnology, chemical conversions, solid waste processing and water treatment technology.

In the **science variant**, the role of water on land and in the atmosphere is studied. This specialisation studies the global water cycle, urban meteorology and water run-off. This specialisation includes remote sensing, earth sciences, hydrology, air quality and meteorology.

Graduation examples

- Design your own satellites to monitor the world's water reservoirs

- Local treatment of urban sewage and healthy water reuse in India - several projects on frugal technologies for the treatment of drain water
- Fouling control in ceramic NF membranes
- Illumination effect on growth kinetics of Purple Non-Sulfur Bacteria (PNSB)
- Ground testing of satellite rainfall products from the Global Precipitation Mission using a new sensor (the intervalometer) during the Tanzania tropical monsoon
- Application of an atmospheric model to study, as an example, cloud formation including fog, extreme precipitation, wind energy, or the dispersion of air pollutants

Career prospects

The Netherlands is internationally renowned for its expertise and knowledge relating to water and the environment. A considerable number of TU Delft graduates in this field find jobs abroad. Last year, over a thousand vacancies for the job title 'environmental engineer' were posted on a renowned American job site. Waste water or drinking water engineers are often among these vacancies. If we look more widely at which vacancies require experience in the field of environmental engineering, we find 32,807 vacancies. Positions range from 'quality analyst' to 'consultant' and 'monitoring technician'. These figures will probably rise over the coming years, as the need for innovative solutions and techniques to improve the quality of life becomes more urgent.



2nd
in QS subject ranking
Civil Engineering



68%
international students



45%



55%



38
first year students in 2020



programme since
2016
and growing