MASTER OF SCIENCE IN SUSTAINABLE LAND MANAGEMENT (URBAN LAND ENGINEERING)

PROGRAMME JOINTLY OFFERED BY GHENT UNIVERSITY, VRIJE UNIVERSITEIT BRUSSEL

120 ECTS CREDITS - LANGUAGE: ENGLISH

FACULTY OF SCIENCES

2025-26

WHAT

Sustainable land and groundwater management and urban land problems and engineering are important global and current environmental issues. Sustainable Land Management refers to practices and technologies that aim at integrating the management of land, water and other environmental resources to meet human needs while ensuring the long-term sustainability of ecosystem services and livelihoods. Worldwide, population pressures and severe degradation, pollution and desertification problems are threatening this – for several countries relatively scarce – natural resource, and cause competition between agricultural or industrial purposes, urban planning and nature conservation. To guarantee a proper use and management of this basic commodity for a nation, well trained specialists with a thorough knowledge of the properties and characteristics of this natural resource, and a solid insight in factors and measures that may alter its actual state and value are warranted and call for a high standard scientific and practical education.

STRUCTURE

The Master of Science in Sustainable Land Management is a two-year, full-time programme. Students can choose between two main subjects: Land and Groundwater Management, and Urban Land Engineering.

The **Land and Groundwater Management** main subject aims at training researchers, academics, government staff and expert consultants in the inventory and detailed characterisation of land capacity, and of groundwater in particular. Graduates should be able to understand the development and evolution of groundwater under natural conditions or following human interference using field, map, laboratory and remote sensing data. They should have the scientific knowledge to use and manage land and water in a sustainable way, and to optimise land and groundwater use under different natural and environmental conditions.

The **Urban Land Engineering** main subject aims at training researchers, academics, government staff and expert consultants in the inventory and detailed characterization of land capacity, and of urban land in particular. Graduates should be able to understand urban hydrology and hydraulics, and the problem of sustainable mobility and logistics, using field, map, laboratory and remote sensing data. They should have the scientific knowledge to use and manage urban land and water in a sustainable way, and to optimise urban land use under different natural and environmental conditions.

The first-year curriculum, and that of the Land and Groundwater Management main subject in the second year are organised at Ghent University, whereas all the course units of the Urban Land Engineering main subject in the second year are lectured at Vrije Universiteit Brussel. There is one common course unit in the second year: “Integrated Project”, assuring coherence between both majors. An important part of the second-year curriculum is allocated to the Master’s dissertation. Students have to integrate the knowledge they acquired by means of (guided) self-study, which involves experimental work, data analysis and interpretation, writing and communication. The Master’s dissertation is an important benchmark for the final competencies the students have obtained.

LABOUR MARKET

Experts in physical land resources are in high demand to address the many challenges ahead of us, particularly resulting from the lack of similar programmes worldwide. The implementation of various directives on environmental and climate change, and addressing the sustainable development goals, calls for well-trained personnel in physical land resources, both in the Global North and South. The great majority of alumni are very satisfied with the programme and with the opportunities it created for their current jobs. Most alumni are employed in theory-oriented and applied research at universities or research institutes; policy making at (inter)governmental and non-governmental organisations; education, training, extension or rural innovation; design, management and interventions at small to medium-sized enterprises or corporate businesses; or take up a consultancy or advisory position.

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TOELATINGSVOORWAARDEN VOOR HOUDERS VAN EEN VLAAMS DIPLOMA

1 **Rechtstreeks:**

- Bachelor in de bio-industriële wetenschappen
- Bachelor in de bio-ingenieurswetenschappen
- Bachelor in de biochemie en de biotechnologie
- Bachelor in de biologie
- Bachelor in de biowetenschappen
- Bachelor in de chemie
- Bachelor in de fysica
- Bachelor in de fysica en de sterrenkunde
- Bachelor in de geografie
- Bachelor in de geografie en de geomatica
- Bachelor in de geologie
- Bachelor of Environmental Technology
- Bachelor of Food Technology
- Bachelor of Molecular Biotechnology
- Een diploma van een opleiding 'Bachelor of Science in de industriële wetenschappen'
- Een diploma van een opleiding 'Bachelor of Science in de ingenieurswetenschappen' (met inbegrip van 'architectuur')

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

The Sustainable Land Management programme is open to holders of a bachelor's degree in sciences, applied sciences or engineering. The adequacy of the diploma will be evaluated based on scientific competences and skills of the students by the Sustainable Land Management Steering Committee. Applicants must have a bachelor's degree of minimum 3 years with good overall scores (at least upper second class of equivalent) and sufficient basic sciences course (equivalent to 15 ECTS of mathematics, physics, chemistry including mechanics and physical earth sciences) from a university or recognized equivalent. The equivalence will be evaluated by the Sustainable Land Management Steering Committee.
Information on admission requirements and the administrative procedure for admission on the basis of a diploma obtained abroad, can be found on the following page: www.ugent.be/admission and https://sulama.ugent.be/

LANGUAGE REQUIREMENTS

Language requirements Dutch: no language requirements

English: CEFR level B2
Are exempt from submitting a certificate B2 English: students
- having successfully completed at least one year of secondary education with English as language of instruction, or having successfully completed secondary school in a Belgian institution;
- having successfully completed programme units in higher education with a minimum of 54 ECTS-credits where English was the language of instruction. A certificate that the language of instruction was English has to be submitted for institutions in countries where English is not the national language.

PRACTICAL INFORMATION

Study programme

studiekiezer.ugent.be/master-of-science-in-sustainable-land-management-urban-land-engineering-en/programma

Information sessions

Graduation Fair
afstudeerbeurs.gent/en/students/further-studies

Enrolling institution

Vrije Universiteit Brussel

Application Deadline (for International degree students)

For students who **need a visa**: before 1st of April
For students who **do not need a visa**: before 1st of June
Read more

Tuition fee

More information is to be found on: www.ugent.be/tuitionfee

Contact

hilde.de.coninck@vub.be

Learning path counsellor

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