MASTER OF SCIENCE IN PHYSICAL LAND RESOURCES (LAND RESOURCES ENGINEERING)

PROGRAMME JOINTLY OFFERED BY GHENT UNIVERSITY, VRIJE UNIVERSITEIT BRUSSEL

120 ECTS CREDITS - LANGUAGE: ENGLISH

WHAT

The list of challenges facing humanity and the planet is huge: climate change, food and water insecurity, environmental degradation, a projected global population of 9 billion by 2050, and resulting from this, conflict, war and migration. These challenges are strongly linked with physical land resources, and soil and water in particular. A thorough understanding of physical land resources and how to manage and engineer soil and water is thus essential in addressing current and future challenges, and particularly to optimise biomass production and other land uses while minimising environmental hazards. This is acknowledged by the international scientific community and policy makers, and resulted in international conventions such as the United Nations (UN) Convention to Combat Desertification, International Panel for Food Security, UN Convention for Biodiversity, International Panel on Climate Change. At the World Climate Summit 2015 held in Paris, soil management was identified as a formal part of the global response to the climate crisis.
We offer a top-rated, unique and international programme that was ranked first in recent programme evaluations by students. It is one of the few programmes worldwide with such a strong focus on soils in relation to climate change, food and water insecurity, environmental degradation and engineering applications and thus addressing directly and indirectly most of the new 17 UN Sustainable Development Goals. The programme is taught in English and is followed by students from all continents, resulting in a unique international experience. The programme is research-based and is worldwide one of the few programmes that still provides students a fundamental and in-depth understanding of physical land resources. Specific training is given on how to write and defend a research proposal, and an important part of the programme is allocated to the master dissertation. Students thus get the opportunity to be involved as junior researchers in cutting-edge research.

STRUCTURE

The two-years (120 credits) interfaculty and interuniversity programme addresses soil materials from an agricultural, hydrological and geotechnical perspective, which is rather unique. The curriculum is tailor-made in that students have a great flexibility in developing their curriculum to their personal needs and interests. 87 (out of the total 120) credits are to be achieved by taking up elective courses and activities (including a master dissertation, on a research topic of choice). Students can also choose to follow a preparatory summer school. We offer an attractive, balanced and coherent programme (from theory to laboratory to practice) with a wide range of different teaching methods including field work, excursions, laboratory work, computer workshops, group discussions, microteaching, scientific communication, classroom lectures and internship. Our students really appreciate this applied and practical approach to teaching, in combination with a solid academic and theoretical formation. Attention is not only given to the latest technological developments and equipment, but also to low-tech alternative solutions encouraging self-reliance.
The first year provides a fundamental basis in physical land resources, with a main subject in either Soil Science or Land Resources Engineering. The second year offers specialised courses in one of the two main subjects.

Main subject: Land Resources Engineering

This main subject offers training in non-agricultural use and application of soil and includes geotechnical aspects (use of soil as a building material or for foundations, slope stability and stability of excavations). It also offers training in the role of soil- and groundwater for water management and supply, soil management in relation to environment and land use (erosion, sediment transport and protection).

> Master's dissertation

An important part of the programme is allocated to the master dissertation. Guided visits to the research units of all lecturers are organised in semester 1 and offer students a full picture of all relevant research activities and the existing infrastructure. Students start collecting data and conduct field and lab work between semester 2 and 3 (summer holiday). In the 2nd year, students avail of the full 2nd semester for all the work related to the master dissertation. They have to integrate the acquired knowledge with (guided) self-study, which involves experimental work, data analysis and interpretation, writing and communication. The master dissertation is an important measure of the final competences obtained by the student.

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LABOUR MARKET

There is a great demand for experts in physical land resources to address the many challenges ahead of us, particularly resulting from the lack of similar programmes worldwide. Implementation of various environmental and climate change related directives and addressing the sustainable development goals, demands 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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FACULTY OF BIOSCIENCE ENGINEERING

2021-22

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

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/prospect/en/administration/enrolment-or-registration.

LANGUAGE REQUIREMENTS

Language requirements for this study programme differ from the required standard level for English taught study programmes as specified in the Ghent University Education and Examination Code:
Dutch: no language requirements
English: TOEFL 550 (paper-based) - TOEFL 80 (internet-based) - IELTS: 6.5 (with a minimum of 6.0 for writing) - certificate CEF-B2 (issued by a European university language centre) - Cambridge Certificate of Advanced English (CAE)
Exemptions:

- Prospective students who have a diploma (Secondary Education, Academic Bachelor Degree, Master Degree) issued by an institution officially recognized by the Flemish Government. **Remark**: this exemption does not count for application to Erasmus Mundus Programmes.
- Prospective students who are nationals from or have obtained a bachelor and/or master degree in a higher education institute with English as mode of instruction in USA, Australia, New Zealand, United Kingdom, Republic of Ireland or Canada. In the latter case a certificate has to be submitted that states that English was the language of instruction.

PRACTICAL INFORMATION

Study programme

studiekiezer.ugent.be/master-of-science-in-physical-land-resources-land-resources-engineering-en/programma

Information sessions

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

Enrolling institution

Vrije Universiteit Brussel

Information on enrolment at Ghent University.

Application Deadline (for International degree students)

More information on programme specific application procedures and deadlines.

Tuition fee

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

Contact

Ghent University
Faculty of Bioscience Engineering
International Training Centre
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applications.itc@ugent.be

Learning path counsellor

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e-mail

www.itc.ugent.be