

MASTER OF SCIENCE IN CIVIL ENGINEERING

MAJORS: DREDGING AND OFFSHORE ENGINEERING - CONSTRUCTION DESIGN

MINORS: OPERATIONS MANAGEMENT

120 ECTS CREDITS - LANGUAGE: ENGLISH

The Faculty of Engineering and Architecture (FEA) offers most of its Engineering programmes at Master's level in English. This underlines the international ambition of the faculty, as well as the importance of an international education and multiple language skills for students.

WHAT

The Civil Engineering programme focuses on the study and design of buildings and structures (roads, bridges, hydraulic structures, high-rises and industrial buildings) and aims for the education of civil engineers who can perform at a high level in an international industrial and social environment. The programme concentrates on the thorough development of the conception and design capability, with the added objective of a job in Research and Development. For that purpose, the core curriculum has a pronounced emphasis on the computational aspects of buildings and infrastructure. By means of electives, students can choose to study additional aspects of the field corresponding to their personal aptitude and interests. These electives also aim to broaden the scope of the study programme.

STRUCTURE

In its entirety, the Civil Engineering programme consists of two phases: the first phase takes three years and leads to the academic Bachelor's degree of Engineering. The second phase takes two years and leads to the Master's degree Civil Engineering. In the course of the Master's programme students can opt for a deepening or broadening scope, by means of a major or minor, respectively, or by means of a comprehensive set of electives.

> Construction Design

In the Construction Design major some specific engineering disciplines are refined. This gives the graduate the baggage to work in the construction industry, while at the same time having a broader and a more specialised technological knowledge. In particular, this set of course units focuses on the conceptual and computer-aided design of structures, structural stability, seismic design, spatial structures, glass and façade structures.

> Dredging and Offshore Engineering

The Dredging and Offshore Engineering major pursues a profound knowledge in the field of coastal and offshore engineering through a coherent set of course units that meets the requirements of the

industry in this field. Given the enduring pressure on coastal regions worldwide, there is a sustained growth of coastal and offshore engineering constructional activities (e.g. sea defence, wind farms, platforms, land reclamation, artificial islands,...) and associated dredging activities. We address the basic knowledge of maritime technology (ship construction, stability and motions in harbours and approach channels), as well as cover the principles of dredging techniques with regard to dredging processes and soil mechanical aspects. We also teach a deeper understanding and modelling of hydrodynamic loads by waves and currents on coastal and offshore structures, and of coastal zone processes. The major centres on the design and construction of offshore structures, including ocean energy conversion (wind, waves and tide), and geotechnical aspects of offshore foundations.

LABOUR MARKET

Due to the rate of technical developments, highly skilled workers are required in the construction industry now more than ever. A Civil Engineering graduate designs and leads the construction and management of roads, bridges, hydraulic and coastal structures, high-rises, and industrial buildings. Major employers for our graduates are construction companies, engineering and consultancy companies, manufacturers of building components, dredging contractors, the Mobility and Public Works Department of the Flemish Government, as well as provincial and municipal technical services and associations. Civil engineers are also employed in architectural offices and monitoring agencies, insurance companies, banks, real estate companies

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Tuition fee

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

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