# MASTER OF SCIENCE IN CHEMICAL ENGINEERING

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

Starting from a fundamental understanding of the reaction itself, the transport phenomena and physico-chemical properties, production processes are designed, constructed and optimised. The scope of the Chemical Engineering programme ranges from the micro-scale of the chemical reaction, and the mesoscale of the reactor and separation units to the macro scale of the entire process. Through electives, our students are given the chance to tailor the curriculum to their interests, either by means of a broadening or a deepening scope. Course units are either taught by recognised researchers in their field or by guest lecturers from the industry, introducing the necessary practical insights, particularly in chemical process design and process safety.

## STRUCTURE

The Master of Science in Chemical Engineering comprises two years (120 ECTS). General mandatory course units (72 ECTS) focus on the key aspects of the programme, such as:

- Chemical Reactors
- Chemical Kinetics
- Unit Operations
- Chemical Process Design
- Polymer Reaction Engineering
- Process Safety and Control

Elective course units of a deepening and broadening nature (36 ECTS) allow the students to tailor their curriculum to their own interests. Work placements (both in academia as well as in industry) can be recognized as an elective. Pending approval by the Programme Committee, any course unit available in Ghent University's education portfolio can be taken as an elective. The Master's dissertation (24 ECTS) concludes the programme and exposes the student to the ongoing research and innovation at Ghent University.

## LABOUR MARKET

As a Chemical Engineering graduate, you typically find employment in the chemical process industry. In addition, there are various career opportunities in the polymer, textile, food, pharmaceutical and environmental sanitation industry, where chemical transformations are implemented in the manufacturing process. Our graduates typically supervise a team responsible for (chemical) production and focuses on the improvement and innovation of processes and products. Other opportunities arise in engineering companies where you will be responsible for the design, construction and start-up of new production units. Furthermore, equipment design and construction companies employ many chemical engineers. Last but not least, universities and research institutes also recruit chemical engineers for academic positions. In short, our graduates awaits a bright future in the modern, diverse and international chemical industry which is strongly anchored in (the extended vicinity of) our region.

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## TOELATINGSVOORWAARDEN VOOR HOUDERS VAN EEN VLAAMS DIPLOMA

1 **Rechtstreeks:**
- Bachelor in de ingenieurswetenschappen, afstudeerrichting: chemie en materialen
- Bachelor in de ingenieurswetenschappen, afstudeerrichting: chemische technologie
- Bachelor in de ingenieurswetenschappen, afstudeerrichting: chemische technologie en materiaalkunde
- Bachelor in de ingenieurswetenschappen, afstudeerrichting: materiaalkunde
- Bachelor in de ingenieurswetenschappen: chemische technologie en materiaalkunde

2 **Na het met succes voltooien van een voorbereidingsprogramma:**

**MIN 30 SP - MAX 90 SP**
- Bachelor in de bio-ingenieurswetenschappen
- Bachelor in de biochemie en de biotechnologie
- Bachelor in de chemie
- Bachelor in de fysica
- Bachelor in de fysica en de sterrenkunde
- Bachelor in de industriële wetenschappen, afstudeerrichting: chemie
- Bachelor in de industriële wetenschappen, afstudeerrichting: elektromechanica
- Bachelor in de industriële wetenschappen: chemie
- Bachelor in de industriële wetenschappen: elektromechanica
- Bachelor in de industriële wetenschappen: milieukunde
- Bachelor in de industriële wetenschappen: textieltechnologie
- Bachelor in de ingenieurswetenschappen (KMS)
- Een diploma van een opleiding 'Bachelor of Science in de ingenieurswetenschappen' (met inbegrip van 'architectuur')

**aantal studiepunten te bepalen door de faculteit**
- Bachelor in de bio-industriële wetenschappen
- Bachelor of Engineering Technology, afstudeerrichting: Chemical Engineering
- Bachelor of Engineering Technology, afstudeerrichting: Electromechanical Engineering

3 **Rechtstreekse toelating voor het volgen van een brugprogramma (horizontale instroom):**

a opleidingen nieuwe structuur:
- Master in de industriële wetenschappen: chemie
- Master of Chemical Engineering Technology

b opleidingen oude structuur:
- Industrieel ingenieur in chemie

## ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Students who wish to enrol for the Master of Science in Chemical Engineering can enter the programme without any prerequisites if they hold the following diploma: an academic diploma of Bachelor (or Master) of Science in Engineering (university level, minimum three years), with the main subject in Chemical Engineering and/or Materials Science or an equivalent to this. Admission can only be granted after an individual application procedure. The Study Programme Committee will make the final decision whether to accept the application or not. The Study Programme Committee can decide that students need to follow a preparatory course or an individual master's programme, for instance for students who hold another diploma of Bachelor or Master.

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

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|---|---|
| Language requirements | Dutch: no language requirements<br>English: CEFR level B2 |

The language requirements for this study programme can be found on: www.ugent.be/languagerequirements

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FACULTY OF ENGINEERING AND ARCHITECTURE

2021-22

## PRACTICAL INFORMATION

### Study programme

studiekiezer.ugent.be/master-of-science-in-chemical-engineering-en/programma

### Information sessions

**EVOLV**

evolv.gent/en/students/further-studies

**Open Days**

26 April 2022 17u00 - 19u00 - Ufo, Campus Ufo, Sint-Pietersnieuwstraat 33, Gent

### Enrolling institution

Information on enrolment at Ghent University.

### 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


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