

# MASTER OF SCIENCE IN ELECTROMECHANICAL ENGINEERING (MECHANICAL CONSTRUCTION)

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 world of electromechanical engineering encompasses development, design, manufacturing, testing and control of tools, machines, vehicles and other electrical or mechanical systems, as well as research on these topics. The Electromechanical Engineering is a two-year degree programme intended to prepare students for a future technical leadership role in industry. The programme offers in-depth training in all aspects of electromechanical engineering and its economic and social implications based on a solid scientific basis.

Graduates will have acquired an attitude of scientific synthesis, analytical reasoning as well as scientific and technical independence. Training in research skills provides mastery in developing, implementing and monitoring technical and scientific innovations.

## STRUCTURE

The programme consists of a general module, main subject modules, electives and a dissertation. The general module contains course units on all topics related to Electromechanical Engineering, ranging from electrical drives and machine manufacturing, to management skills.

Students can choose one of five main subject modules with specialist course units on different topics of interest. The Mechanical Construction main subject focuses on design, manufacturing and maintenance of machines and mechanical equipment.

Through elective course units students broaden their knowledge and skills on technical and non-technical topics. The Master's dissertation is a final step in the learning process. It aims at fostering the ability to conduct scientific research independently.

## LABOUR MARKET

Electromechanical Engineering graduates from all five main subjects are employed in all branches of industry. Both at government agencies and private companies their range of professional activity is broad and varied: electrical energy production and distribution, electrical and mechanical equipment

manufacturing, metal industry, building construction, transport, consultancy, banking and insurance.

Students who opted for the Mechanical Construction main subject find work in companies developing machines and mechanical constructions for all industrial sectors. This comprises mechanical design (materials selection, component selection, lifetime analysis), production methods (machining, forming ...) and construction methods (welding, fastening...). Particular attention goes to safety, sustainability and cost related aspects.

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## TOELATINGSVOORWAARDEN VOOR HOUDERS VAN EEN VLAAMS DIPLOMA

### 1 Rechtstreeks:

- Bachelor in de ingenieurswetenschappen, afstudeerrichting: werktuigkunde-elektrotechniek
- Bachelor in de ingenieurswetenschappen: werktuigkunde-elektrotechniek

### 2 Rechtstreeks, na check door de inrichtende faculteit van formele toelatingsvereisten:

- Bachelor in de ingenieurswetenschappen, afstudeerrichting: elektrotechniek nevenrichting: werktuigkunde
- Bachelor in de ingenieurswetenschappen, afstudeerrichting: werktuigkunde nevenrichting: elektrotechniek

### 3 Na het met succes voltooien van een voorbereidingsprogramma:

#### MIN 30 SP - MAX 90 SP

- opleidingen nieuwe structuur:
  - Bachelor in de bio-ingenieurswetenschappen
  - Bachelor in de fysica
  - Bachelor in de industriële wetenschappen, afstudeerrichting: elektromechanica
  - Bachelor in de industriële wetenschappen: elektromechanica
  - Bachelor in de ingenieurswetenschappen (KMS)
  - Bachelor in de nautische wetenschappen
  - Bachelor in de wiskunde
  - Bachelor of Engineering Technology, afstudeerrichting: Electromechanical Engineering
  - Een diploma van een opleiding 'Bachelor of Science in de ingenieurswetenschappen' (met inbegrip van 'architectuur')
  - Master in de nautische wetenschappen
- opleidingen oude structuur:
  - Licentiaat in de natuurkunde
  - Licentiaat in de nautische wetenschappen
  - Licentiaat in de wiskunde

### 4 Rechtstreekse toelating voor het volgen van een brugprogramma (horizontale instroom):

- opleidingen nieuwe structuur:
  - Master in de industriële wetenschappen: elektromechanica

- Master in de industriële wetenschappen: elektrotechniek
  - Master in de industriële wetenschappen: energie
  - Master in de industriële wetenschappen: industrieel ontwerpen
  - Master in de industriële wetenschappen: machine- en productieautomatisering
  - Master of Electromechanical Engineering Technology
- b opleidingen oude structuur:
- Industrieel ingenieur in elektromechanica

## ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Students who wish to enrol for the Master of Science in Electromechanical 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 Electromechanical Engineering 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. Important: Students who wish to enrol must add the result of a GRE test to their application, more specifically the result of the Quantitative Reasoning of the General Test. The GRE test result will be assessed using the [faculty's grading scale](#). 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](http://www.ugent.be/prospect/en/administration/enrolment-or-registration).

## LANGUAGE REQUIREMENTS

Language requirements Dutch: no language requirements

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English: CEFR level B2

The language requirements for this study programme can be found on: [www.ugent.be/languagerequirements](http://www.ugent.be/languagerequirements)

## Contact (for international degree students)

International Relations Officer  
+32 9 264 36 99  
[international.ea@ugent.be](mailto:international.ea@ugent.be)

## PRACTICAL INFORMATION

### Study programme

[studiekiezer.ugent.be/master-of-science-in-electromechanical-engineering-mechanical-construction-en/programma](http://studiekiezer.ugent.be/master-of-science-in-electromechanical-engineering-mechanical-construction-en/programma)

### Information sessions

#### Graduation Fair

[afstudeerbeurs.gent/en/students/further-studies](http://afstudeerbeurs.gent/en/students/further-studies)

#### Open Days

Each spring there is a **Graduation Fair**. It consists of a job fair (with more than 200 different companies) and a postgrad/master fair.

For some programmes, there is a specific **Open Day**. If this is the case, you will find the date here (at the latest Feb 15th).

09 March 2024 09u00 - 14u00 - doorlopend - Campus Ardoyen, Gebouw 126 (iGent), Tech Lane Ghent Science Park, 9052 Zwijnaarde

08 May 2024 16u00 - 18u00 - leszaal Soete, Technicum blok 2, Sint-Pietersnieuwstraat 41, Gent

### Enrolling institution

Information on enrolment at Ghent University.

### Application Deadline (for International degree students)

For students who **need a visa**: 1st of April

For students who **do not need a visa**: 1st of June

[Read more](#)

### Tuition fee

More information is to be found on: [www.ugent.be/tuitionfee](http://www.ugent.be/tuitionfee)

### Learning path counsellor

[studietrajectir.ea@ugent.be](mailto:studietrajectir.ea@ugent.be)