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

**WHAT**

The Master of Science in Biomedical Engineering is an interuniversity initiative of Ghent University and Vrije Universiteit Brussel. Students acquire a profound technical know-how (integrating mathematics, physics, chemistry and life sciences with engineering techniques) to operate in the biomedical sector, while being introduced into the specificities of working for and with the patient and with living matter, and to learn the perspective of the clinician and all stakeholders in the biomedical and health care industry. Students acquire the necessary research and engineering skills to independently analyse and solve complex problems and are capable of developing new materials, devices, tools, systems and methods for the early diagnosis, prevention and treatment of disease in order to improve and guarantee the health care and quality of life of society. Students are aware of the ethical and socio-economic aspects of the biomedical engineering profession and have knowledge of the organisation of our health care system. In the fast-evolving area of biomedical engineering, the master's programme also stimulates an attitude of permanent learning.

This programme delivers academically formed engineers of an outstanding international level, naturally trained to function in a multidisciplinary and international team through the multidisciplinary programme (with lecturers from diverse faculties and research areas) and work on multidisciplinary projects together with international students solving multidisciplinary problem cases in group. Students acquire excellent communication skills in oral and written reporting.

**STRUCTURE**

The study programme consists of:

- 120 credits spread over four semesters of twelve weeks each.
- 66 credits compulsory courses in established and new emerging biomedical engineering disciplines.
- 41 credits project work spread over years 1 and 2.
- 30 credits elective courses to shape your individual track with option to specialize in mechanics and materials, radiation physics, neuro-engineering or sensors and devices.
- participation to the National Day on Biomedical Engineering, a Biomedical Industry Day and company and field trips.
- possibility to choose a track that leads to the recognition of ‘Expert in Medical Radiation Physics’.

**Master's Dissertation**

The Master's dissertation is the tailpiece of the programme. The dissertation consists of a substantial original task of a high scientific level, to be elaborated individually by the student (surrounded and supported, however, by a research team), and thus with a high degree of independence. It is via this independent work and the written and oral dissertation report that the student demonstrates his or her capability to get familiar with a relevant biomedical engineering problem, study the problem on a high scientific level, and to report on the subject in diverse manners (master's dissertation, poster, oral public presentation).

**Programme mobility**

The basic biomedical engineering courses are, in principle, offered in parallel at both universities, while the more specialist courses are either taught at UGent, VUB or in collaboration between both, with attention for an optimal student and teaching staff mobility. For the elective courses and the master’s dissertation, students are free to choose between UGent, VUB or a (international) partner institute with which UGent or VUB has a bilateral agreement. Obviously, students also have the opportunity to study part of their curriculum abroad within the Erasmus+ framework. The student mobility window is in the second master, where students can opt for studying one semester or the complete second year abroad.

The interuniversitary programme board overlooks the programme of each individual student and might impose (a limited number) of courses, depending on their formerly acquired credits and competences. As educational tracks are assessed on an individual basis, it is important that students apply in time so individual track records can be studied with care to ensure an optimal selection of courses.

**LABOUR MARKET**

The biomedical engineer is employed in industry (medical device and software development and/or production and distribution, pharmaceutical, cosmetic, food products industry), in hospitals (laboratories of academic hospitals, as well as management of academic and general hospitals), universities and research institutes, and in government functions (government and advisory organs). Evidently, the biomedical engineer can also apply for all generic academic engineering jobs.
MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING
120 ECTS CREDITS - LANGUAGE: ENGLISH

TOELATINGSVORWAARDEN VOOR HOUDBERS VAN EEN VLAAMS DIPLOMA

1 Rechtstreeks:
   • Bachelor in de ingenieurswetenschappen, afstudeerrichting: biomedische ingenieurstechnieken
2 Na het met succes voltooien van een voorbereidingsprogramma:
   MIN 45 SP - MAX 87 SP
   • Bachelor in de bio-ingenieurswetenschappen, afstudeerrichting: cel- en genbiotechnologie
   • Bachelor in de fysica en de sterrenkunde
   • Een diploma van ‘Master in Engineering Technology’
   • Een diploma van een bacheloropleiding in het academisch onderwijs binnen één van de volgende studiegebieden (of een combinatie ervan):
     • Biomedische Wetenschappen
     • Geneeskunde
   • Een diploma van een masteropleiding aansluitend op een bacheloropleiding binnen één van de volgende studiegebieden (of een combinatie ervan):
     • Biomedische Wetenschappen
     • Geneeskunde
   • Een diploma van een opleiding ‘Bachelor of Science in de ingenieurswetenschappen’ (met uitzondering van ‘architectuur’)
   • Een diploma van een opleiding ‘Master of Science in de industriële wetenschappen’
   • Een diploma van een opleiding ‘Master of Science in de ingenieurswetenschappen’ leidend tot de titel van ‘burgerlijk ingenieur’ (met uitzondering van ‘architectuur’)
   • Een diploma van een opleiding ‘Master of Science in Engineering’ leidend tot de titel van ‘burgerlijk ingenieur’ (met uitzondering van ‘architectuur’)
   • Master in de bio-ingenieurswetenschappen: cel- en genbiotechnologie
   • Master in de bio-ingenieurswetenschappen: cel- en gentechnologie
   • Master in de fysica en de sterrenkunde
   • Master in de industriële wetenschappen: biochemie
   • Master in de ingenieurswetenschappen (KMS)

BSc in Biomedical Engineering: admission after assessment of individual application where the equivalence with BSc in Biomedical engineering programs at UGent or VUB is checked
BSc in Engineering: it may still be possible to enter via preparatory program after assessment. We basically want students to get at level with students taking our BSc in Biomedical engineering programs at UGent or VUB, so you can verify the expected requirements.
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

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 580 (paper-based) - TOEFL 92 (internet-based) - TOEFL 237 (computer-based) - IELTS: 6.5

PRACTICAL INFORMATION

Study programme
studiekieser.ugent.be/master-of-science-in-biomedical-engineering-en/programma

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

Open Days
This year’s Open Day will be an online virtual tour.
30 April 2021 - virtual tours

Enrolling institution
Ghent University, Vrije Universiteit Brussel

Application deadline
For students who need a visa: 1st of March
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