

MASTER OF SCIENCE IN ENGINEERING PHYSICS

120 ECTS CREDITS – LANGUAGE: ENGLISH – DEGREE: MASTER OF SCIENCE

COURSE CONTENT

Ghent University is the only university in Flanders to offer a Master of Science in Engineering Physics. Alumni of this master have a solid physical knowhow and the necessary skills to have a leading role in groundbreaking physics research. At the same time they have the engineering skills that make them wanted as innovators and developers in industry, research institutes, and universities. The engineering component of the master's programme develops skills such as analysis, design and optimisation of existing and new systems, products, machines, and materials. This involves approximating physical reality by system descriptions ranging from simple rules of thumb to expert systems. The physical component follows a reductionist approach where experiment and mathematical modelling aim at understanding and reducing physics to its basics, and deriving its governing equations. Despite the more philosophical approach, a rigorous attitude remains essential and all physical theory has to withstand experimental validation.

COURSE STRUCTURE

The regular programme leading to a master's degree in engineering physics starts with a three year bachelor and is completed by a two year master. Several intakes from other bachelors or masters, both domestic and foreign, are available.

The two year master's programme itself has a limited number of obligatory courses developing a strong basis in the major fields of engineering physics. Through a wide range of optional courses the student can choose an advanced education in the basic concepts of physics; simulation and modelling; photonics; nanoscale sciences; nuclear physics and technology; electronics; materials; or bio-medical physics.

A research oriented master's dissertation completes the programme.

CAREER PERSPECTIVES

The Master of Science in Engineering Physics trains future engineers for the greater part for research and development careers. The broad physical scope of the Master and its eight focus clusters assures that its alumni are ready to do innovative work in a broad range of companies and research centres in all areas where physics is required or essential. Engineering Physics delivers engineers with expertise and an inquiring attitude that allows them to excel in multidisciplinary research as well. Graduates find their way to companies working in photonics; nanoscale sciences; nuclear physics and technology; electronics; materials; or bio-medical physics. Some Engineering Physics alumni work in consultancy or have jobs at government institutes. After a few years they can be found in management functions or as leading researchers and professors.

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TOELATINGSVOORWAARDEN VOOR HOUDERS VAN EEN VLAAMS DIPLOMA

Rechtstreeks:

- Ba ingenieurswetenschappen: toegepaste natuurkunde
- Ba ingenieurswetenschappen: afstudeerrichting toegepaste natuurkunde

Rechtstreeks: (naar brugprogramma – 120 studiepunten)

- Ma fysica en sterrenkunde
- Ma fysica
- Ma in Physics
- Ma in de ingenieurswetenschappen: elektrotechniek
- Ma in de ingenieurswetenschappen: fotonica
- Ma in Electrical Engineering
- Ma in Photonics Engineering
- European Ma in Photonics Engineering

Via voorbereidingsprogramma: (max. 90 studiepunten)

- (andere) Ba ingenieurswetenschappen (incl. Ba ingenieurswetenschappen: architectuur)
- Ba fysica en sterrenkunde
- Ba fysica
- Ma industriële wetenschappen (alle)
- Ma in Engineering Technology (all)
- Ba ingenieurswetenschappen (KMS)

TAAL

Je voldoet aan de taalvoorwaarden op basis van je Vlaams diploma.

PRAKTISCHE INFORMATIE

Studieprogramma:

<https://studiegids.ugent.be>

> faculteiten > opleidingstypes > ga naar de opleiding van je keuze

Alternatieve trajecten

Meer informatie over voorbereidings- en brugprogramma's op www.ugent.be/ea

volg > alles voor toekomstige studenten > voor wie al een diploma heeft

Infomomenten

Masterbeurs

www.ugent.be/masterbeurs

Infosessie

22 april 2020 - 17 u.-19 u. doorlopend, Campus Ufo, Ufo,
Sint-Pietersnieuwstraat 33 - Foyer
www.ugent.be/nl/studeren/masteropleidingen

Contact

Trajectbegeleiding:
studietrajectir.ea@ugent.be

Meer info

Afdeling Studieadvies – Campus Ufo, Ufo,
Sint-Pietersnieuwstraat 33, 9000 Gent, T 09 331 00 31
studieadvies@ugent.be – www.ugent.be/studieadvies

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ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Students who wish to enrol for the Master of Science in Engineering Physics 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 of three years), with the main subject in Engineering Physics 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.

LANGUAGE

More information regarding the required knowledge of English: www.ugent.be/language/requirements

PRACTICAL INFORMATION

Study programme

www.ugent.be/coursecatalogue

> by Faculty > Programme types > select your programme

Application deadline for international students

- for students who need a visa: 1st of March
- for students who do not need a visa: 1st of June

www.ugent.be/deadline

Enrolling institution

Ghent University

Tuition fee

More information is to be found on:

www.ugent.be/tuitionfee

Last update: January 2020.

Contact

Faculty of Engineering and Architecture

International Relations Officer – Degree students

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