International Masters and Postgraduate Studies at Ghent University

Study Career Service
Adviescentrum voor Studenten
Sint-Pietersnieuwstraat 33
B-9000 Gent
internationalstudents@UGent.be
www.UGent.be > English
> Education and study > Study Support

International Masters and Postgraduate Studies at Ghent University – 2011
Information in this brochure has been updated in November 2010.
Introduction

This brochure presents a compilation of the International Masters and the English postgraduate studies of Ghent University (Belgium).

Information is provided on the objectives and the content of each international programme as well as details regarding the entrance requirements, the place of lectures, useful addresses, tuition fees, etc.

The tuition fee mentioned with each master may vary slightly from year to year.

Besides these programmes, there are also a limited number of English courses available within the framework of continuing education (see online course catalogue, classified per faculty).

× Most masters have their own website with specific information (the address can be found with each master in this brochure).

× Information on the content of the programmes can be found in the online course catalogue of Ghent University (www.UGent.be > English > ... for degree students > quick link: course catalogue).

Attention: In the course catalogue all study programmes have been translated into English on behalf of international students and researchers. However, this does not mean that the language of instruction is automatically English as well; it is either Dutch or English.

The courses mentioned in this brochure are entirely taught in English or are available English-taught tracks of Dutch courses.

More information

Ghent University
International Admissions Desk
Office for Student Administration and Study Programmes
Sint-Pietersnieuwstraat 33 (Ufo), B-9000 Gent - Belgium
T +32 (0)9 331 00 99 - f +32 (0)9 331 01 46
internationalstudents@UGent.be
www.UGent.be/admission

Low Countries Studies

Low Countries Studies is a programme for exchange students and other foreign students and researchers who are already studying or working as a researcher at Ghent University and who want to learn more about Flanders, Belgium and the Netherlands. The students are given a broad overview of various aspects of Flemish society and everyday customs in Flanders.

× More information: www.lowcountries.UGent.be/
Academic bachelor degrees
Bachelor programmes comprise 180 ECTS credits (3 years). Successful students are awarded the degree of bachelor.

Academic master degrees
comprise either 60 ECTS credits (1 year), 120 ECTS credits (2 years), 180 ECTS credits (3 years) or 240 credits (4 years).
Master programmes build further on the knowledge acquired during the appropriate bachelor degree, bringing the student to an advanced level of knowledge and competences in a specific field of study. The programme is concluded by a master’s dissertation: an important part of the assessment. Successful students are awarded the degree of master.

Advanced master degrees
comprise 60 ECTS credits (1 year) and provide high standard specialization opportunities for holders of a particular master degree. They aim at deepening the knowledge and/or competences in a certain field of study. These programmes are open to students who hold a master degree or a four year bachelor degree; a preparatory course may be required. The programme is concluded by a master’s dissertation; an important part of the assessment. Successful students are awarded the degree of master.

Postgraduate studies
Postgraduate studies are study programmes of minimum 20 ECTS credits. They constitute study and learning paths intended to enable students to explore the competences acquired upon completion of a bachelor’s or master’s study, in greater depth and scope, as part of their further professional training. Successful students are awarded a postgraduate certificate, in some cases conferring a legally recognized professional qualification.

Erasmus Mundus
Erasmus Mundus Master Courses are high-quality course programmes at Master level, which were selected for funding by the European Commission. Each course programme is offered by a consortium of universities which are situated in different European countries. Students of an Erasmus Mundus Master Course study in at least two of these countries. After successfully completing the programme students are awarded a recognized double, multiple or joint diploma.

International Course Programme - ICP
Master programme organised by Ghent University and the Flemish Interuniversity Council (VLIR-UOS). All programmes take up two academic years and lead to an MSc degree. These courses focus on specific problems of developing countries.

Credits
Credits are based on ECTS-principles. At Ghent University 60 credits constitute a full-time programme of approximately one academic year. One credit equals 25 (max. 30) hours of education, study and assessment activities.
Master of American Studies
Organised jointly by Ghent University, Katholieke Universiteit Leuven, University of Antwerp and Vrije Universiteit Brussel

Course content

Perhaps the most important international relationship of the 21st century is being forged today between the European Union and the United States. On every major issue, from economics over defense planning to social policy, the agreements and the differences between Europe and the U.S. are felt not just on these two continents, but around the world. Increasingly, policymakers on both sides of the Atlantic are finding that a keen understanding of history, the values and the social context of the other are essential requirements to successful discussion, negotiation and joint undertakings in culture, business and government between Europe and America. The Master in American Studies offers complete and up-to-date information on the United States. By offering a diverse range of courses, the MA program seeks to present a balanced picture that allows you to reach a more encompassing, in-depth understanding of the country and its culture. With a total of 8 courses, ranging from law and economics to history, politics and various expressions of culture, in addition to a final thesis, this full-time program allows students both to develop an overview and to zoom in on specific topics.

Course structure

The four organising universities (Antwerp, Ghent, Louvain and Brussels) collaborate to offer courses that are unique to the program. The Master consists of eight courses (four per semester), half of which are situated in the field of 'American Culture'. The topics of these cultural courses may vary from one year to the next. In addition, all students take the following four core courses: The Contemporary American Economy; American Law and the American Legal System; American Political Institutions; American History. In addition to meeting the eight specific course requirements students also write a final research paper on a topic of their choice within the subject area of the program.

Career perspectives

The MA in American Studies is tailored to everyone who stands to profit from a better understanding of the USA for their future careers, whether as a journalist, interpreter, diplomat, academic or employee of an American company. Students with a special interest in the States but without any professional ambitions in this direction are of course also cordially invited.

Contact

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University of Antwerp
Department of Literature
Prof. dr. Bart Eeckhout (program director)
Prinsstraat 13, room 0.139, 2000 Antwerp
T +32 (0)3 220 43 29 - Bart.Eeckhout@ua.ac.be

Center for American Studies - Royal Library
Ms. Myriam Lodeweyckx
Katelijnestraat 4 (Boulevard de l’Empereur),
1000 Brussels - T +32 (0)2 519 55 23 - caa@kbr.be

Information about program and online application:
www.kbr.be/cas/AmericanStudies/ma_program.html

- Master dissertation

The master dissertation is a requirement for every candidate to obtain a master degree. The master dissertation is an original piece of research work. It aims to develop and strengthen the research capacity skills of the students. The student selects a topic and is given guidance by a promotor or supervisor. The master dissertation consists of a literature review part, a theoretical reflection and an original analysis of the topic. The master dissertation will consist of 10,000 – 12,000 words and is worth a third of the marks of the whole degree.

- American Culture
- American Law and the American Legal System
- American Political Institutions
- American History.

In addition to meeting the eight specific course requirements students also write a final research paper on a topic of their choice within the subject area of the program.

PRACTICAL INFORMATION

APPLICATION DEADLINE

Applications for holders of non-Flemish degrees are threefold:
- fill in the online application form on:
  www.kbr.be/cas/AmericanStudies/ma_program.html
- send the required documents conform the administrative procedure for international students of the coordinating university (University of Antwerp), before the application deadline mentioned on www.ua.ac.be/en
- take the on-site interview and writing test (if you reside within Belgium, appointments via the program administration).

ENROLLING INSTITUTION

Only after receipt of a letter of acceptance students can be enrolled at University of Antwerp.

TUITION FEE

Min € 750 (for EEA students) and max € 2,000 (no extra costs other than course materials)

SCHOLARSHIPS

- offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis
  www.UGent.be > EN > education and study > study support > study related costs > scholarships
- other financing possibilities:
  www.highereducation.be > Studying in Flanders
  www.studyinflanders.be > Funding opportunities

START/END OF THE PROGRAMME

One year programme
Start academic year: last week of September

Masters of American Studies

| 60 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: MASTER |

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

For non-Flemish degrees:

Students can apply if they have a degree that is granted after a minimum program of four years of full-time study (equivalence assessment at the discretion of the program director).

For Flemish degrees:

The exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

LANGUAGE

Candidates have to pass an initial English test (TOEFL or IELTS) as well as an oral and written proficiency test that is organized in-house.

The necessary minimum score is 600 on the paper-based/institutional TOEFL test; 250 on the computer-based TOEFL test; 6.5 on the IELTS (B1); or 7.5 on the IELTS. An in-house TOEFL test (followed by the oral and written proficiency test) will be held at the Center for American Studies in Brussels. Earlier TOEFL or IELTS results may be used, but the on-site interview and writing test remain compulsory. Off-site interviews and writing tests can only lead to a provisional acceptance into the program and need to be validated through an on-site interview and writing test upon arrival in Belgium. If the latter are deemed insufficient the student may still be refused entry into the program.

The following students are exempted from this obligation:
- Belgian students who hold a degree in Germanic Languages and Literatures including English;
- Belgian students who hold a degree in translation or interpreting including English;
- Native speakers of English.
Further exemptions at the discretion of the program director.

GENERAL COURSES 40
- The Contemporary American Economy
- American Law and the American Legal System
- New York City in Fiction, 1975-2000
- American History through European National Stereotypes
- American Political Institutions
- Representations of JFK
- Film Noir: a Hollywood Genre in its Social Context
- The American Way of Religion

Masters of American Studies 20
Course content

The Master of Advanced Studies in Linguistics is a one-year interdisciplinary programme aimed at students who have already acquired a good background in linguistics or language-related fields of study. The participating Flemish institutions are Ghent University, Katholieke Universiteit Leuven, University of Antwerp and Vrije Universiteit Brussel.

Course structure

Students choose four courses (of 6 credits each): one or two from the set of general courses; two or three specialization courses (with at least two from a specific area of specialization, which will also be the area of the master dissertation and of the intensive course work and/or apprenticeship in the 2nd semester). If only one general course is taken, a third specialization course may be chosen from the set listed for a different area of specialization, provided that there is a clear link and the local coordinator at the university of enrollment agrees.

- Linguistics in a Comparative Perspective – Ghent University
- Cognitive and Functional Analysis – Katholieke Universiteit Leuven
- Interdisciplinary Linguistics – University of Antwerp
- Multilingual and Foreign Language Learning and Teaching – Vrije Universiteit Brussel

Students may enroll at the university of their choice, in keeping with their preferred area of specialization. It is possible to follow courses from the other participating universities since there is a close co-operation between the different universities.

Career perspectives

This master’s programme is not labour market oriented; it is an excellent preparation for students who want to start a research project (PhD) in the field of linguistics.

Contact

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Mieke.VanHerreweghe@UGent.be

Student’s Administration
Arlet.Renneboog@UGent.be

> Master dissertation

The master dissertation is a requirement for every candidate to obtain a master degree. The master dissertation is an original piece of research work. It aims to develop and strengthen the research capacity of the students. The student selects a topic and is given guidance by a promoter or supervisor. The master dissertation consists of a critical bibliography review part, a theoretical reflection and an original analysis of the topic.

Career perspectives

This master’s programme is not labour market oriented; it is an excellent preparation for students who want to start a research project (PhD) in the field of linguistics.

Contact

Ghent University
Faculty of Arts and Philosophy – English Department
Prof. Mieke Van Herreweghe
Rozoer 44, 9000 Gent - T +32(0)9 264 37 90
Mieke.VanHerreweghe@UGent.be

Student’s Administration
Arlet.Renneboog@UGent.be
**Master of Advanced Studies in Linguistics**

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**Postgraduate Studies in Logic, History and Philosophy of Science**

**Course content**

The curriculum is meant for masters in philosophy as well as for masters in a specific science. To philosophers it offers an advanced technical schooling in the three disciplines mentioned in the title as well as in the application of these techniques to scientific disciplines - these form the necessary basis for reflection. For other masters, the curriculum mainly aims at teaching them to apply the rather technical insights of the three meta-disciplines to their own discipline. So, as far as non-philosophers are concerned, the curriculum does not only aspire to form people who are able to do research in logic, history of science, and philosophy of science, relying on their previously obtained disciplinary training. It also seeks to form scientists who, thanks to a thorough training in the three meta-disciplines, perform better as scientists because they are able to locate presuppositions and to coin variants for them.

In the general courses, insights and techniques from logic, history of science, and philosophy of science are introduced in a systematic way. In the optional courses, these techniques are concretely applied to specific reading material and specific research tasks.

**Course structure**

In the first semester, the students select three of the four packages that are offered (totalling up to 18 ECTS): logic, history of science, philosophy of mathematics, and philosophy of science. In these courses, the basis of these disciplines is studied at an advanced level. The optional courses (24 ECTS), followed during the second semester, rely on those courses. The optional courses aim at an in-depth exploration, in agreement with the contemporary aims. This also makes it possible to impose on the students specific tasks that depend on the students earlier training and current aims. This also makes it possible to impose on the students the high demands made necessary by the intensive training that the curriculum aspires to offer.

> **Dissertation**

The dissertation (18 ECTS, 50 to 70 pages) comes to the equivalent of two publishable papers – the aim is actually to arrive at published papers. The structure of the curriculum allows for a good preparation of the limited number of students to the dissertation.

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**Contact**

Ghent University – Faculty of Arts and Philosophy
Department of Philosophy and Moral Science
Prof. dr. Erik Weber
Blandijnberg 2, 9000 Gent
Erik.Weber@UGent.be
http://logica.UGent.be/centrum/postgrad.html

Candidates should contact prof. dr. E. Weber.
Postgraduate Studies in Logic, History and Philosophy of Science

60 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: CERTIFICATE OF POSTGRADUATE STUDIES

**ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS**

For non-Flemish degrees:
A diploma of master is required. All candidates are expected to have an excellent motivation and a broad interest for methodological problems. For Flemish degrees:
The exhaustive list of degrees giving access to this postgraduate study can be consulted in the online course catalogue.

**LANGUAGE**
At enrolment for an English study programme you must give evidence of a good command of English by submitting one of the following:
- a TOEFL-TEST, minimum two years old, with a score of 510-559 (paper-based) or 80-100 (internet-based) or higher (the UGent TOEFL code is 2644);
- an official test report form (TRF) from IELTS, minimum two years old, with a minimum score of 6.0;
- a certificate awarded by the University Language Centre (UCL) confirming proficiency in English (minimum CEF-level B2);
- Certificate Practical English 5, Upper-Intermediate Academic English, or Preparing for an English Test, awarded by the UCT; or
- TOEFL-TEST, maximum two years old, with a score of 510-559 (paper-based), or 87-109 (internet-based) or higher (the UGent TOEFL code is 2644);
- Cambridge ESPOL First Certificate in English (FCE).

Under no circumstances will students be enrolled, if they cannot demonstrate English proficiency by one of the above.

The following students are exempted from the language requirement:
- students who have successfully completed a minimum of 1 year (60 credits), be it secondary or higher education, where the medium of instruction was English (an official certificate must be submitted);
- students who have successfully completed a predoctoral training programme at Ghent University, provided that the majority of the programme was course units in English.

**PRACTICAL INFORMATION**

**APPLICATION DEADLINE**

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

**ENROLLING INSTITUTION**

Ghent University

**TUITION FEE**

€61,50

**SCHOLARSHIPS**

General information about organizations awarding scholarships:
- www.highereducation.be > Studying in Flanders
- www.studyinflanders.be > Funding opportunities

**START END OF THE PROGRAMME**

One year programme

Start academic year: last week of September

**STUDY PROGRAMME**

**GENERAL COURSES**

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- To be chosen from the following list:
  - Thorough Survey of Logic
  - Thorough Survey of the Scientific Methodology
  - Thorough Survey of the Philosophy of Physics
  - Thorough Survey of the Philosophy of Mathematics
  - History of Science: Conceptions, Methods and Problems

**ELECTIVE COURSES**

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- Adaptive Logics applied to the Philosophy of Science
- Logic and Artificial Intelligence
- Formal Languages - From Theory to Practice
- Three-Valued Logics for Software Specification
- Fuzzy Sets and Approximate Reasoning
- Contextual Approaches to Epistemology
- Historical and Contemporary Theories of Vision: Perspectives and Perception
- Scientific Explanation
- Cultural Context of Knowledge: Perspectives from the Philosophy of Science
- Foundations of Science from a Political and Societal Perspective
- Fantastic Philosophy and foundations of Mathematics
- Scientific Discovery and Creativity
- History and Philosophy of Biology
- Historical Applications of Contemporary Philosophy of Science
- From Copernicus to Newton: Problems from the First Scientific Revolution
- Science in Its Historical Context (Middle Ages and Early Modern Period)

**MASTER DISSERTATION**

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Master of Advanced Studies in European Law

**Course content**

The Master of Advanced Studies in European Law is dedicated to the legal environment of the European Union. That environment consists of EU-law as such, but also of international law and of member state law. Through a combination of these fields, the programme offers a unique in-depth study that encompasses relevant branches of contemporary law, within the context of the EU. As far as member state law is concerned, emphasis is put on a comparative approach that fosters common-characteristics and possible harmonisation.

The LLM programme’s mission is to provide each student the opportunity to pursue, in his or her field of preference, both introductory and advanced studies of the law in the European Union. With an ever expanding and further integrating European Union, and in an ever more global legal environment, it offers an additional law degree that is instrumental for today’s lawyers around the world.

The Ghent Law School is a European ‘Jean Monnet Centre of Excellence’ recognized for its expertise and resources in European Union Law.

**Course structure**

Students need to obtain 60 credits, over a period of two semesters. There is great flexibility in shaping one’s own curriculum. Only 9 credits cover compulsory courses, all of which are supporting courses, dealing mainly with various skills for lawyers. Students are also required to write a 15 credit LLM-paper in connection with one of their classes.

The bulk of the credits is filled with elective courses on a variety of topics from the following fields: European Law, Private Law in Europe, Economic and Social Law, Environmental Law, Transport Law, Public International Law, Criminal Law and Criminology.

Students can choose from approximately forty different courses, all of which are exclusively taught in English. Teaching is generally done interactively, requiring advanced reading and class participation. The programme typically hosts several internationally reputed guest professors.

Organised social activities are an important part of the LLM-experience, and not all are extra-curricular. Curricular activities include guided visits to important EU and international institutions, and participation in several colloquia.

> Master dissertation

The master dissertation is a requirement for every candidate to obtain a master degree. The master dissertation is an original piece of research work. It aims to develop and strengthen the research capacity skills of the students. The student selects a topic and is given guidance by a promoter or supervisor.

**Careers**

The programme enables the student to greatly enhance his or her chances when applying for an international legal job.

**Contact**

Ghent University – Faculty of Law
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Adjunct Director: Prof. dr. Hans De Wolf
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International Relations Officer
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www.law.UGent.be/lmi
Master of Advanced Studies in European Law

**60 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: MASTER**

### ADMISSION REQUIREMENTS

**FOR INTERNATIONAL DEGREE STUDENTS**

Students are eligible for admission if they fulfill the following admission criteria:

- To have a law degree, i.e. the degree that is in the country of origin is required for the exercise of the legal profession. Students who are graduating may apply and can be conditionally admitted, subject to the successful completion of their degree.

- Exceptionally, after an examination of their curriculum and in view of their acquired competences, candidates may be admitted who do not have a law degree. In such a case, the admission may be made subject to limitations with respect to the courses to be followed.

- For Flemish degrees: the exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

### LANGUAGE

Visit: www.law.UGent.be/llm

At enrolment for an English study programme you must give evidence of a good command of English by submitting one of the following:

- Cambridge ESOL:
  - First Certificate in English (FCE)
  - B1 First (at least 164)
  - B2 First (at least 185)
  - C1 Advanced (at least 193)

- TOEFL:
  - Paper-based, 510-559 (minimum)

- IELTS:
  - Original ‘test report form’ (TRF) from IELTS, maximum two years old, with a score of 6.0.

- TOEFL-TEST, maximum two years old, with a score of 510-559 (paper-based), or 87-109 (Internet-based) or higher (the UGent TOEFL code is 2643).

- other financial possibilities:
  - www.highereducation.be > Studying in Flanders
  - www.studyinflanders.be > Funding opportunities

### ENROLLING INSTITUTION

Ghent University

www.law.UGent.be/llm

### TUTION FEE

€ 4234.30 (+ personal costs e.g. study visits to European/International organisations).

### SCHOLARSHIPS

- Offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis.
  - www.UGent.be > IE > education and study > study support > study related costs > scholarships

- other financial possibilities:
  - www.highereducation.be > Studying in Flanders
  - www.studyinflanders.be > Funding opportunities

### START/END OF THE PROGRAMME

One year programme.

Start academic year: last week of September.

**PRACTICAL INFORMATION**

### APPLICATION DEADLINE

The original application form accompanied by the required documents should reach the Ghent Law Faculty before May 1 of the year preceding the academic year you are applying for. Early applications are recommended and will be decided upon in February and March.

Applications received after May 1 will only be considered if the number of students admitted previously permits additional students. Applicants must be aware of the limited number of places available and should ensure ample time for visa requirements and other preparations.

### MASTER DISCUSSION

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**DEADLINE**

The original application form accompanied by the required documents should reach the Ghent Law Faculty before May 1 of the year preceding the academic year you are applying for. Early applications are recommended and will be decided upon in February and March.

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### SCHOLARSHIPS

- Offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis.
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- other financial possibilities:
  - www.highereducation.be > Studying in Flanders
  - www.studyinflanders.be > Funding opportunities

### START/END OF THE PROGRAMME

One year programme.

Start academic year: last week of September.

### GENERAL COURSES

- Skills for Lawyers
- European Law: the Basics
- Seminar: Foreign Chair

### ELECTIVE COURSES

- Core elective courses
  - www.UGent.be > IE > education and study > study support > study related costs > scholarships

- Other elective courses
  - www.UGent.be > IE > education and study > study support > study related costs > scholarships

### MASTER DISSERTATION

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**DEADLINE**

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### SCHOLARSHIPS

- Offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis.
  - www.UGent.be > IE > education and study > study support > study related costs > scholarships

- Other financial possibilities:
  - www.highereducation.be > Studying in Flanders
  - www.studyinflanders.be > Funding opportunities

### START/END OF THE PROGRAMME

One year programme.

Start academic year: last week of September.

### GENERAL COURSES

- Skills for Lawyers
- European Law: the Basics
- Seminar: Foreign Chair

### ELECTIVE COURSES

- Core elective courses
  - www.UGent.be > IE > education and study > study support > study related costs > scholarships

- Other elective courses
  - www.UGent.be > IE > education and study > study support > study related costs > scholarships

### MASTER DISSERTATION

15
European Master in Law and Economics

Organising institutes
The joint programme of European master in Law and Economics is offered by the following universities: Aix-en-Provence (France); Bologna (Italy); Ghent (Belgium); Haifa (Israel); Hamburg (Germany); Manchester (United Kingdom); Rotterdam (The Netherlands); Vienna (Austria).
In addition, there are bilateral exchange agreements between the Universities of Hamburg and the George Mason University School of Law in Arlington, Virginia on the one hand, and the University of Rotterdam and the University of California at Berkeley on the other hand.

Course content
This programme offers the unique opportunity for interdisciplinary studies of law and economics. It provides students with an advanced understanding of the economic effects of divergent laws.

For law students knowledge of the specific regulations of their home country is too narrow a base for counselling firms that are active in interstate trade. Additionally, knowledge of the economic effects of legal rules has become indispensable for understanding their clients’ commercial needs.

Their clients’ commercial needs.

Similarly, economics students will profit from an accurate understanding of the institutional/legal framework of market economies.
Hence, for both lawyers and economists, knowledge of the other discipline and international contacts are crucial for a successful future career.

Borders in Europe are becoming less and less meaningful. For law studies, internationalisation creates a specific problem. The legal systems in the different European countries became increasingly divergent due to the increasing importance of specific regulations regarding areas such as social security, industrial policy, protection of the environment, equal treatment of minority groups etc.

The economic analysis of law, often briefly called ‘law and economics’, is certainly a good candidate as a standard for relevant economic effects of divergent due to the all-European character of the programme and the international composition of the audience.

Student mobility
The programme covers one academic year, for which successful students will receive 60 ECTS points.
The academic year is divided into three terms. The unique international and interdisciplinary character of the EMLE Programme is secured through an intensive co-operation between lawyers and economists at no less than seven European Universities and three non-European partners. Students may study at up to three different universities but cannot spend all the terms in the same location.

– In the first term courses will be offered at the Universities of Rotterdam, Hamburg and Bologna.
– In the second term students will study at the Universities of Ghent, Haifa or Bologna.
– In the third term courses are offered in Aix-en-Provence, Bologna, Haifa, Hamburg, Manchester, Rotterdam and Vienna.

Bilateral exchange agreements exist between the University of Hamburg and the George Mason University School of Law in Arlington, Virginia (1st term), as well as between the University of Rotterdam and the University of California at Berkeley (3rd term).

> Master dissertation
The master dissertation is a requirement for every candidate to obtain a master degree. The master dissertation is an original piece of research work. It aims to develop and strengthen the research capacity skills of the students. The student selects a topic and is given guidance by a promoter or supervisor. The master dissertation consists of a critical bibliography review part, a theoretical reflection and an original analysis of the topic.

Career perspectives
Law and economy interact in many ways. Private law assists individuals and groups willing to enter into agreements in a free market. Public law seeks to correct the outcomes of a free market system by means of economic and social regulation.
Economists should be informed about the legal environment in which economic activities must be conducted. Lawyers should be aware of the economic effects of current legal rules and the expected outcome under a different legal regime.

The master programme prepares students for a professional career, for example, in public organisations, in multinational law firms or consultancy firms. Graduates are also well prepared for doctorate research in a PhD programme.

The references to law in the courses will be of a comparative kind, due to the all-European character of the programme and the international composition of the audience.

Economics

The programme comprises three kinds of courses. In order to make law students more familiar with basic economic reasoning, some courses are more economic in orientation. Some courses deal with comparative law in order to internationalise the legal background of the students. Most courses directly deal with the economic analysis of the most important branches of private, public, international and European law.

The Master in Law and Economics allow students to compare the legal systems in the different European countries became increasingly divergent due to the increasing importance of specific regulations regarding areas such as social security, industrial policy, protection of the environment, equal treatment of minority groups etc.

The programme consists of a critical bibliography review part, a theoretical reflection and an original analysis of the topic.

Career perspectives

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European Master in Law and Economics

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Career perspectives

Law and economy interact in many ways. Private law assists individuals and groups willing to enter into agreements in a free market. Public law seeks to correct the outcomes of a free market system by means of economic and social regulation. Economists should be informed about the legal environment in which economic activities must be conducted. Lawyers should be aware of the economic effects of current legal rules and the expected outcome under a different legal regime.

The master programme prepares students for a professional career, for example, in public organisations, in multinational law firms or consultancy firms. Graduates are also well prepared for doctorate research in a PhD programme.

The references to law in the courses will be of a comparative kind, due to the all-European character of the programme and the international composition of the audience.
Master of Banking and Finance

Course content
The Master programme is intended for economists with a background in finance and who need for a serious in-depth training in finance and banking. Students graduating from this programme will probably feel at ease in functions or departments such as:
- investment analysis
- risk management units of financial and corporate organisations
- asset and liability management units of financial intermediaries
- pension funds, hedge funds
- study department of a central bank or government agency
- financial consulting and rating agencies
- supervisory bodies for financial markets and institutions
- university or research departments

Course structure
Thorough understanding of the complex relationships and dynamics of financial markets and institutions requires insight in many disciplines. Knowledge about the organisation of financial markets and the mechanics of the assets traded is not sufficient, if it is not supplemented by awareness of macroeconomic and monetary concepts. Moreover, the quantitative nature of finance also requires a sound command of econometrics and data processing skills.

> Master dissertation

During the last two months of the academic year (May and June) students will be given the opportunity to work in small teams on their thesis in a financial institution. This will allow them to demonstrate their capacity to analyse real-world situations in a scientifically accurate way using the modelling techniques covered in the Master courses.

Often, they will be required to offer solutions to actual problems and to assess potential policy implications of such solutions. The thesis subjects are usually suggested by financial institutions or other companies. A team consisting of faculty members and employees of the company will supervise the students while working on the thesis. The findings will be presented by the end of June to the supervising team.

Career perspectives
The Master programme are usually suggested by financial institutions or other companies.

For non-Flemish degrees:
- Foreign students can apply if they have a four-year bachelor degree. Admission is dependent on the study results of the student and the subjects taken. The target group consists of masters in economics, applied economics, commercial engineer with sufficient initial education in financial economics, investment analysis and econometrics.
- For Flemish degrees:
- The exhaustive list of degrees giving access to this master can be consulted in the online course catalogue. Flemish students should already have an initial Flemish master degree.

Admission requirements for international degree students
- A good command of English by submitting one of the following:
  - a TOEFL-IBT, maximum two years old, with a score of 60-67 (paper-based) or 110-119 (internet-based) or higher (the UGent TOEFL code is 6243);
  - an original "test report form" (TRF) from IBT, maximum two years old, with a score of 6.5 or 7.0 or higher;
  - a certificate awarded by the UCT (University Language Centre) confirming proficiency in English (CEF-level C1);
  - a certificate of English spoken at the Advanced level, awarded by the UCT;
  - a certificate C1 of an university language centre.
- Under no circumstances will students be enrolled, if they cannot demonstrate English proficiency by one of the above.
- The following students are exempted from the language requirement:
  - holders of a diploma of secondary education or higher education, awarded by an (recognised) institution in the Flemish Community;
  - students who have successfully completed a minimum of 1 year (60 credits) of secondary or higher education, where the medium of instruction was English (an official certificate must be submitted);
  - students who have successfully completed a preparational training programme at Ghent University providing that the majority of the programme were course units in English.

Language
All enrolment for this English study programme you must give evidence of a good command of English by submitting one of the following:

TOEFL-IBT, maximum two years old, with a score of 60-67 (paper-based) or 110-119 (internet-based) or higher (the UGent TOEFL code is 6243);
- an original "test report form" (TRF) from IBT, maximum two years old, with a score of 6.5 or 7.0 or higher;
- a certificate awarded by the UCT (University Language Centre) confirming proficiency in English (CEF-level C1);
- a certificate of English spoken at the Advanced level, awarded by the UCT;
- a certificate C1 of an university language centre.

Contact
Ghent University
Faculty of Economics and Business Administration
Department of Financial Economics
Woordegem Willemsplein 50, 9000 Gent
Programme Co-ordinator: Nathalie Verhaeghe
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nathalie.verhaeghe@UGent.be
mbf@UGent.be

www.feb.ugent.be/finexo/mbf/
The goal of this programme is to create specialists in the domain of marketing analysis to support business marketing strategy and marketing decisions of the firm.

The programme addresses the needs of companies for better-educated staff with strong skills in the domain of analytical customer relationship management and marketing analytics. Thanks to information technology and the availability of market data both at the demand side (customer information, e.g., scanning data ..., and supply side (internal information about marketing actions, competitors, ...), marketing as a discipline has evolved from a relatively qualitative to a more quantitative discipline.

As a result, there is a strong need in the marketplace for people able to:
- control and cope with the huge amount of available data;
- generate and use models to translate these raw data into useful marketing information.

These people will be the interface between company management (e.g. product manager, marketing manager) and the suppliers of marketing data within the organization. Currently, marketing departments are not facing the problem how to obtain marketing data, but rather how to transform these massive amounts of data into useful marketing information and systems.

The focus of the programme is on analytical customer relationship management. We train students in the theoretical underpinnings but the main focus is on the practical skills of marketing relationship management – recapturing – cross/up-selling – acquisition – control actions, competitors, … and coping with the huge amount of available data; and use models to translate these raw data into useful marketing information.

The choice of engaging in a specific Advanced Master programme consists of a real-life project for a company dealing with a specific marketing issue. A list of previous projects can be obtained from: www.mma.UGent.be/Projects.htm

Career perspectives

The master dissertation of the Master of Marketing Analysis is an individual work for students with an interest in computer programming is a plus. Foreign students can apply if they have a four-year bachelor degree. Admission is dependent on the study results of the student and the subject taken.

For Flemish degrees:
The exhaustive list of degrees giving access to this master can be consulted in the online course catalogue. Flemish students should already have an initial Flemish masters degree.

LANGUAGE
Admission to this English study programme: you must give evidence of a good command of English by submitting one of the following:
- a TOEFL-TEST, a minimum of 570 (paper-based), or 80 (internet-based) or higher (the UGent TOEFL code is 0364);
- an original ‘test report form’ (TRF) from IELTS, a score of 6.5 or 7.0 or higher;
- a certificate awarded by the UCT (University Language Centre) confirming proficiency in English (CEFR level C1);
- a certificate of Practical English 6 – Advanced Academic English, awarded by the UCT;
- a certificate C1 of an university language centre.

Under no circumstances will students be enrolled, if they cannot demonstrate English proficiency by one of the above.

The following students are exempted from the language requirement:
- holders of a diploma of secondary education or higher education, awarded by an (recognized) institution in the Flemish Community;
- students who have successfully completed a minimum of 1 year (60 credits), be it secondary or higher education, where the medium of instruction was English (an official certificate must be submitted);
- students who have successfully completed a predoctoral training programme at Ghent University, provided that the majority of the programme were course units in English.

Contact

Ghent University
Faculty of Economics and Business Administration
Department of Marketing
Programme Director: Prof. dr Dirk Van den Poel
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www.mma.UGent.be
Master of Science in Marine Biodiversity and Conservation

Course context

Why Marine Biodiversity and Conservation?
The marine environment is a precious asset. Oceans and seas provide 99% of the available living space on the planet, cover 71% of the earth's surface and contain 90% of the biosphere and consequently a large share of global biological diversity. Marine ecosystems play a key role in climate and weather processes. Indispensable to life itself, the marine environment is also a great contributor to economic prosperity, social well-being and quality of life. However, the marine environment is facing a number of threats including loss or degradation of its biodiversity and changes in its structure, loss of habitats, contamination by dangerous substances and nutrients and impacts of climate change.

The EU-Marine Strategy provides an integrated framework for analyzing relevant community policies’ contributions to the protection of and the impact on the marine environment. In order to obtain these goals, we need to have well trained people who are able to evaluate, understand and investigate the state of the marine environment, and this at different levels and from different disciplines such as general oceanography, ecology, chemistry, physics, statistics, geology, social sciences, economy, and aquaculture.

The ERASMUS MUNDUS MSc programme EMBC is strongly oriented to the fundamental understanding of the structure and function of marine biodiversity, the acquisition of several kinds of tools required for understanding the complexity of biodiversity patterns and processes, and finally to the application of this knowledge for nature conservation and restoration.

Course structure

The study programme is running for 2 academic years and is divided in 3 thematic modules:

- Understanding the structure and function of marine biodiversity (at least 24 ECTS) deals with the fundamental aspects of Oceanography (on a multidisciplinary basis, including physics, chemistry, geology, biology, ecology, biogeography, climate change, the structure and functioning of Marine Biodiversity from genes to habitats) and with impact studies.
- Toolbox for investigating marine biodiversity (at least 20 ECTS) provides an advanced training in Statistics and experimental design, Modelling, Taxonomy, Data and Information Management, Field observations and interpretation and Molecular methods.
- Conservation and Restoration of marine biodiversity (at least 10 ECTS) deals with the application of the above mentioned theories and methods in order to develop a sustainable use of the marine environment.

The EMBC programme (2 years or 120 ECTS) is complemented with summer schools (6 ECTS) on specialized topics in European Marine Research Stations operating within the EU-Network of Excellence MarBEF. These summer schools are 3-4 weeks activities in the field (marine stations where SCUBA diving, snorkeling, and other activities can be performed).

In the second year, a research project (Master thesis) of 30 ECTS is scheduled.

For the development of personal skills and skills in research project implementation (i.e. transferable skills), at least 10 ECTS are required and may include a training in the basic knowledge of the native language of the country of actual study period, training in scientific communication, research management, and this related to one or more of the topics in the thematic modules. Although the courses will be given in English, native language training will enhance social integration of the students in their host countries. Elective courses (from other disciplines or organized within EMBC) can be chosen for 20 ECTS.

> Master dissertation

In the second year, a research project (Master thesis) of 30 ECTS is scheduled. The master dissertation is a requirement for every candidate to obtain a masters’ degree. The master dissertation is an original piece of research work. It aims to develop and strengthen the research capacity skills of the students. The student selects a topic and is given guidance by a promoter or supervisor. The master dissertation consists of a literature review, a theoretical reflection and an original analysis of the topic.
# Master of Science in Marine Biodiversity and Conservation

**120 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: JOINT MASTER**

## ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

For non-Flemish degrees:
The course is open to students with at least a Bachelor (or Master) degree in biology, ecology, environmental sciences, oceanography, marine sciences, geography, geology, or other equivalent degrees with minimum 180 credits.

For Flemish degrees:
The exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

**LANGUAGE**

See also: [http://embc.marbef.org](http://embc.marbef.org)

At enrolment for an English study programme you must give evidence of a good command of English by submitting one of the following:
- a TOEFL-TEST, maximum two years old, with a score of 570 (paper-based), or 87 (internet-based) or higher (the UGent TOEFL code is 22 23 26 43);
- an original ‘test report form’ (TRF) from IELTS, maximum two years old, with a minimum score of 6.5;
- a certificate awarded by the UCT (University Language Centre) confirming proficiency in English (minimum CEF-level B2);
- a certificate of Practical English 5, Upper-intermediate Academic English, or Preparing for an English Test, awarded by the UCT (under no circumstances will students be enrolled if they cannot demonstrate English proficiency by one of the above).

The following students are exempted from the language requirement:
- holders of a diploma of secondary education or higher education, awarded by an (recognised) institution in the Flemish Community;
- students who have successfully completed a minimum of 1 year (60 credits) at secondary or higher education, where the medium of instruction was English (an official certificate must be submitted);
- students who have successfully completed a predocential training programme at Ghent University, provided that the majority of the programme was course units in English.

## PRACTICAL INFORMATION

**APPLICATION DEADLINE**
- Non-EU students: January 7
- EU-students applying for a grant: January 7
- EU-students not applying for a grant: May 15

**http://embc.marbef.org**

**ENROLLING INSTITUTION**
Ghent University

**TUITION FEE**
- € 7,000 (annually) for non-EU students
- € 3,000 (annually) for EU-students

A reduction of the tuition is possible for students with limited financial means.

**SCHOLARSHIPS**
- Erasmus Mundus grants
- A limited number of grants offered by the organising institutions (see website)

**START AND END OF THE PROGRAMME**
Two year programme.
Start academic year: first week of September.

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## MASTER

**GENERAL COURSES**

- **70**

**MODULE 1: Understanding the Structure and Function of Marine Biodiversity (UGent)**
- Biogeochemical Cycles
- Marine Mammals
- Oceanography
- Marine Biodiversity of Aquatic Food Webs: from Algae to Marine Mammals
- Biodiversity of Marine Micro-Organisms
- Evolution and Biogeography of Aquatic Organisms
- Marine Ecology
- Fisheries
- Aquaculture
- Ecology of Coastal Seas

**MODULE 2: Toolbox for Investigating Marine Biodiversity (UGent)**
- Data and Information Management
- Practical Taxonomy: Principles and Techniques
- Taxonomy of Selected Groups
- Specific Topics in Methodology for Marine Biodiversity
- Biostatistics: Experimental Design and Multivariate Analysis
- Ecological Modelling
- Molecular Techniques and their Application in Evolutionary and Ecological Studies
- Statistics

**MODULE 3: Conservation and Restoration of Marine Biodiversity (UGent)**
- Environmental Impact Assessment
- Specific Topics in Conservation and Restoration of Marine Biodiversity
- Applied Biodiversity Science: Policy, Management and Conservation

**MODULE 4: Transferable Skills (UGent)**
- Cultural Module
- Dutch for Speakers of Other Languages
- Intermediate Academic English
- Internship
- Preparation of Research Proposal
- Advanced Academic English
- Basic Academic English
- Dutch Language and Flemish Culture
- Upper-intermediate Academic English

**MODULE 5: Summer Schools**

**ELECTIVE COURSES**

- **20**

**MASTER DISSERTATION**

- **30**
Master of Nematology

MAJOR: NEMATOLOGY APPLIED TO AGRO-ECOSYSTEMS • NEMATOLOGY APPLIED TO NATURAL ECOSYSTEMS • NEMATOLOGY SYSTEMATICS (TAXONOMY, PHYLOGENY, BIODIVERSITY)

International Course Programme (ICP): Master Programme organised by Ghent University and the Flemish Interuniversity Council (VlIR-UOS)

Course content

Nematodes or roundworms are everywhere. They are among the most harmful organisms of crops, especially in the tropics, but on the other hand they are very promising as natural antagonists that can be used in bio-control programmes against pest insects. Because of their ubiquitous presence, overwhelming densities and diversity (sometimes compared to insects) the free-living nematodes are an ideal tool for biodiversity studies. They are used as bio-indicators of pollution in both terrestrial and aquatic environments.

The programme of Master of Nematology is unique in the world and attracts students from all over the world. It deals with fundamental as well as applied aspects of Nematology and concerns all groups of nematodes in all possible environments: natural soils, agricultural soils, aquatic sediments of freshwater, brackish or marine habitats. It fulfills the international needs for training highly qualified nematologists with a multidisciplinary knowledge in the diverse fields of nematology. This English course programme is multidisciplinary in its approach both within the field of biology and agro-engineering.

Course structure

Basically, the programme consists of 45 credits for eleven compulsory general courses, 30 credits for the master thesis, 27 credits for the major of the student’s choice and 18 credits for elective courses. The compulsory general courses provide the basic theoretical and practical information as well as a more in-depth and broader multidisciplinary knowledge of nematology. These courses level the knowledge and skills of the students with diverse background. In the second semester of the first year, the student start with the courses of the major of his/her choice. Each of the majors deals with fundamental and applied aspects of nematology.

The Major Nematode Systematics provides the requisite knowledge and skills for identification, classification and phylogeny of free-living and parasitic nematode taxa.

The second year of the master programme contains three more compulsory courses, the master thesis and the elective courses.

> Master dissertation

The master dissertation is a requirement for every candidate to obtain a master degree. The master dissertation is an original piece of personal research work. It aims to develop and strengthen the research capacity skills of the students. The student selects a topic and is given guidance by a promoter or supervisor. The master dissertation consists of a literature review, a scientific research often including experiments, analysis and discussion of the results, conclusion, summary and reference list.

Career perspectives

The Master of Nematology programme prepares the student for a career in very diverse environments. Their work can vary between teaching, research in universities and laboratories and providing advice services to the general public, farmers or governmental policies. The multidisciplinary approach allows nematologists to be active both in the field of biology and agro-engineering, work in sophisticated laboratories (molecular research) as well as in conditions where there is hardly any basic equipment as in some developing countries.

Main trumps are: in-depth and broad scientific knowledge, capacity to analyze and solve problems, write research proposals, good communication skills and contacts with national and international nematologists and centres of nematological research and applications.

Contact

Ghent University – Faculty of Science
Department of Biology
Postgraduate International Nematology Course (PINC)
Mrs N. Smid – Promotor: Prof. M. Moens
nc.smid@UGent.be
www.pinc.UGent.be

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Master of Nematology

120 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: MASTER

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Applicants must hold a university degree equivalent to at least 3 years of university studies in zoology, botany, agriculture, environmental sciences or a closely related field. Each application file will be screened by the Nematology Education Committee and must be approved by the Faculty and the Rector of UGent.

For Flemish degrees: The exhaustive list of degrees granting access to this master can be consulted in the online course catalogue.

LANGUAGE

At enrolment for an English study programme you must give evidence of a good command of English by submitting one of the following:

- a TOEFL-TEST, maximum two years old, with a score of 510-559 (paper-based), or 87-110 (internet-based) or higher (the UGent TOEFL code is 3434);
- an original ‘test report form’ (TRF) from IELTS, maximum two years old, with a minimum score of 6.0;
- a certificate awarded by the University Language Centre (UCT) confirming proficiency in English (minimum CEFL level B2); Certificate Practical English 5, Upper-Intermediate Academic English, or Preparing for an English Test, awarded by the UCT; Cambridge ESOL First Certificate in English (FCE).

Under no circumstances will students be enrolled, if they cannot demonstrate English proficiency by one of the above.

The following students are exempted from the language requirement:

- holders of a diploma of secondary education or higher education, awarded by an (recognized) institution in the Flemish Community.
- students who have successfully completed a minimum of 1 year (60 credits), be it secondary or higher education, where the medium of instruction was English (an official certificate must be submitted).
- students who have successfully completed a postgraduate training programme at Ghent University, provided that the majority of the programme were course units in English.

ENROLLING INSTITUTION

Ghent University

TUITION FEE

For full-time programme (60 ECTS credits/1 year):

- standard tuition fee: € 164.30
- reduced tuition fee for students from developing countries: € 80 (this fee does not include expenses such as course books, excursions, travel expenses, etc.)

SCHOLARSHIPS

- offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis
- other financing possibilities:
  - www.UGent.be > EN > education and study > study support > financing possibilities
  - www.highereducation.be > Studying in Flanders
  - www.studyinflanders.be > Funding opportunities

START/END OF THE PROGRAMME

Two-year programme.
Start academic year: last week of September.

www.icp-itp.UGent.be
### General Courses
- Nematode Morphology
- Nematode Systematics and Molecular Phylogeny
- General Techniques in Nematology
- Molecular Techniques in Nematology
- Data Mining, Processing and Communication
- General Nematode Biology and Interactions
- Statistics
- Nematodes as Model Organisms
- Biostatistics: Experimental Design
- Strategies for Research: Project Development and Paper Writing
- Networking and Seminars

### Majors
#### Nematology Applied to Agro-Ecosystems
- Entomopathogenic Nematodes: Biotechnology and Use in Biological Control
- Systematics of Plant-Parasitic Nematodes: Tylenchomorpha
- Virus-Vector Families
- Life Cycle Biology of the Principle Groups of Plant-Parasitic Nematodes
- Tropical Plant Nematology
- Plant Nematode Behaviour and Physiology
- Molecular Aspects of Plant-Nematode Relationships

#### Nematology Applied to Natural Ecosystems
- Systematics of Free-Living Aquatic Nematodes
- Structural and Functional Biodiversity
- Ecology of Free-Living Aquatic Nematodes
- Biomonitoring
- Systematics of Free-Living Terrestrial Nematodes

#### Nematode Systematics (Taxonomy, Phylogeny, Biodiversity)
- Entomopathogenic Nematodes: Taxonomy, Biology, Biocontrol
- Systematics of Plant-Parasitic Nematodes: Tylenchomorpha
- Virus-Vector Families
- Systematics of Free-Living Aquatic Nematodes
- Systematics of Free-Living Terrestrial Nematodes (Dorylaimia)

### Elective Courses
Courses to be chosen from the elective course list or from study programmes of other Belgian universities.

### Master Dissertation
30 credits
European Master of Science in Nematology

MAJORS: NEMATOLOGY APPLIED TO AGRO-ECOSYSTEMS • NEMATOLOGY APPLIED TO NATURAL ECOSYSTEMS

Erasmus Mundus Master Programme jointly offered by Ghent University and partners

Course content

Nematodes are everywhere. They are among the most harmful organisms of crops, especially in the tropics, but on the other hand they are very promising as natural antagonists that can be used in bio-control programmes against pest insects. Because of their ubiquitous presence, overwhelming densities and diversity (sometimes compared to insects) the free-living nematodes are an ideal tool for biodiversity studies. They are used as bio-indicators of pollution in both terrestrial and aquatic environments.

The aim of the course is to train students to become highly qualified nematologists with multidisciplinary knowledge in the diverse fields of Nematology through mobility to different Universities within Europe and with a well-integrated language and cultural experience.

The programme deals with fundamental as well as applied aspects of Nematology and concerns different groups of nematodes in all possible environments: natural soils, agricultural soils, aquatic sediments of freshwater, brackish or marine habitats, temperate and tropical regions.

The programme offers two major disciplines (majors):

- Nematology applied to agro-ecosystems
- Nematology applied to natural ecosystems

Nematology applied to agro-ecosystems

Focuses on nematodes important as a pest for crops or as a biological control agent for insects. At the end of the course students are able to identify plant parasitic and entomopathogenic nematodes and understand: (i) how basic knowledge can be translated into solutions for nematological problems in agriculture or (ii) how nematodes can be used to control pest insects.

Nematology applied to natural ecosystems

Focuses on the identification and ecology of free-living nematodes from marine/estuarine, freshwater and terrestrial habitats, and on their use as environmental bio-indicators. At the end of the course students are able to identify free-living nematodes, and to use nematode community composition data in the assessment of possible environments: natural soils, agricultural soils, aquatic sediments of freshwater, brackish or marine habitats, temperate and tropical regions.

Career perspectives

Based upon its multidisciplinary approach, the EUMAINE programme prepares the student for a career in diverse environments in the fields of Biology, Bio- and Agro-engineering. They have the excellent background and capacities to fulfill functions in education, fundamental and applied research and governmental institutions at the international job market.

Course structure

First semester (30 credits)

The first semester consists of compulsory basic courses providing essential theoretical and practical information as well as a more in-depth and broader multi-disciplinary knowledge of Nematology.

Second semester (30 credits)

Choice between two majors:
- Nematology applied to agro-ecosystems
- Nematology applied to natural ecosystems

Elective courses are taken according to the chosen major.

Summer course (5 credits)

The summer course Networking and Seminars provides the students with a more advanced knowledge on current research in a broad range of Nematology fields and brings them into direct contact with prominent international experts in Nematology.

Third semester (25 credits)

Elective courses according to the chosen major.

Fourth semester (30 credits)

In the fourth semester students will undertake a research project as a master dissertation at any of the participating institutes.

- Master dissertation

In the fourth semester students will undertake a research project as a master thesis at any of the participating institutes (30 credits). The master dissertation is a requirement for every candidate to obtain a masters’ degree. The master dissertation is an original piece of research work. It aims to develop and strengthen the research capacity skills of the students. The student selects a topic and is guided by a supervisor. The master dissertation consists of a literature review, a scientific research often including experiments, analysis and discussion of the results, conclusion, summary and reference list.

Programme mobility

The main difference and advantage of this Erasmus Mundus programme versus the Master of Nematology at Ghent University (see previous page) is the mobility and the co-operation between different leading universities. Students are required to spend at least one semester at a partner university other than Ghent University (partners: Bielefeld, Germany; Évora, Portugal; Ghent, Belgium; Jaén, Spain; Kiel, Germany; Leuven, Belgium; Wageningen, The Netherlands and the Scottish Crop Research Institute, UK).

Contact

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For Flemish degrees:

- Biology, Bioscience engineering or Environmental sciences.

EUMAINE is open to top-level students with a University Bachelor degree (requiring a minimum of 3 year study) in Agricultural sciences, Biology, Bioscience engineering or Environmental sciences. Applicants with another degree but with experience or knowledge in one of these fields may be admitted to the course at the discretion of the EUMAINE Education Board on the basis of academic transcripts, CV and motivation. Proficiency of English is required.

For Flemish degrees:

- The exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

European Master of Science in Nematology

120 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: JOINT MASTER

APPLICATION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

EUMAINE is open to top-level students with a University Bachelor degree (requiring a minimum of 3 year study) in Agricultural sciences, Biology, Bioscience engineering or Environmental sciences. Applicants with another degree but with experience or knowledge in one of these fields may be admitted to the course at the discretion of the EUMAINE Education Board on the basis of academic transcripts, CV and motivation. Proficiency of English is required.

For Flemish degrees:

- The exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

LANGUAGE

See also: www.eumaine.UGent.be

At enrolment for an English study programme you must give evidence of a good command of English by submitting one of the following:
- a TOEFL-TEST, (maximum two years old, with a score of 510-559 (paper-based), or 80-100 (internet-based) or higher (the UGent TOEFL code is 35481), an original ‘test report form’ (TRF) from IBT, maximum two years old, with a minimum score of 6.0; or
- a certificate awarded by the UCT (University Language Centre) confirming proficiency in English (minimum CEF-level B2);
- a certificate of Practical English 6, Upper-intermediate Academic English, or Preparing for an English Test, awarded by the UCT.

Under no circumstances will students be enrolled, if they cannot demonstrate English proficiency by one of the above.

The following students are exempted from the language requirement:
- holders of a diploma of secondary education or higher education, awarded by an (recognised) institute in the Flemish Community,
- students who have successfully completed a minimum of 1 year (60 credits), be it secondary or higher education, where the medium of instruction was English (an official certificate must be submitted),
- students who have successfully completed a predoctoral training programme at Ghent University, provided that the majority of the programme were course units in English.

Specific language requirements:

- Interest in the languages of the partner universities is recommended.

PRACTICAL INFORMATION

APPLICATION DEADLINE
- EU students: April 15
- Non-EU students: January 1
- Students who do not apply for an Erasmus Mundus grant: May 1

www.eumaine.UGent.be

ENROLLING INSTITUTION

Ghent University

TUITION FEE
- € 7,500 (annually) for non-EU students
- € 3,000 (annually) for EU students

SCHOLARSHIPS
- Erasmus Mundus grants for non-European students
- Erasmus student grants for European students

START END OF THE PROGRAMME

Two year programme.
Start academic year: last week of September.
### European Master of Science in Nematology

#### Master Courses

**Courses**
- Aquatic Biomonitoring
- Systematics of Free-Living Aquatic Nematodes
- Sustainable Plant Life
- Entomopathogenic Nematodes: Taxonomy, Biology, Biocontrol
- Nematode Data:
  - Molecular Techniques in Nematology
  - Tropical Plant Nematology
  - Nematodes: Biotechnology and Use
  - Nematode Biology and Interactions
  - Nematodes as Model Organisms
- Summer Course: Networking and Seminars

#### MAJORS (UGENT)

**Nematology Applied to Agro-Ecosystems**
- Entomopathogenic Nematodes: Taxonomy, Biology, Biocidal
- Systematics of Plant-Parasitic Nematodes: Tylenchomorpha
- Viral-Vector Families
- Life-Cycle Biology of the Principle Groups of Plant-Parasitic Nematodes
- Tropical Plant Nematology
- Plant Nematode Behaviour and Physiology
- Molecular Aspects of Plant Nematode Relationships
- Quantitative Plant Nematology
- Sustainable Nematode Management Tropical Agro-Ecosystems
- Management of Plant Parasitic Nematodes
- Temporaty Nematology
- Entomopathogenic Nematodes: Biotechnology and Use
- Nematology in Biological Control

**Nematology Applied to Natural Ecosystems**
- Systematics of Free-Living Aquatic Nematodes
- Systematics of Free-Living Terrestrial Nematodes
- Structural and Functional Biodiversity
- Ecology of Free-Living Aquatic Nematodes
- Biomonitoring
- Aquatic Toxicology and Environmental Risk Assessment
- International Environmental Protection of Oceans and Seas
- Ecological Modelling

#### ELECTIVE COURSES

**30 ECTS**
- Master Dissertation

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**Course content**

The master of Biochemistry and Biotechnology offers scientists not only a thorough knowledge of biochemistry, molecular biology, genetics, cell biology and physiology but also the ability to use biochemical and biotechnological techniques in a creative and inventive manner on plants, animals or humans. The students are also initiated in the interesting world of bioinformatics.

The training in biochemistry and biotechnology also has a social dimension: to apply research and knowledge in favour of humanity and society. This social involvement is reflected in research on the origin and treatment of all kinds of diseases (such as cancer, chronic inflammation and metabolic diseases), research on the improvement of plants (sustainable food production, production of food with improved nutritional quality, production of bio-fuels) and research on the use of micro-organisms in certain chemical processes (detoxification of contaminants).

There is a close interaction between education and research in the biochemistry and biotechnology programme, based on a strong and world-famous research tradition of the three departments involved.

**Course structure**

The master programme of biochemistry and biotechnology offers courses in English and Dutch. It is possible to choose a complete curriculum of English courses.

The two-year master programme consists of four modules of 30 ECTS credits each:
- **common general courses** (30 ECTS, general, broadening);
- **major course package** (30 ECTS, specialising);
- **minor course package** (15 ECTS, broadening);
- **master dissertation** (30 ECTS, practical training).

The master programme offers five specialising majors:
- **Bio-informatics and system biology** is based on the recent need for bio computing and computational biology for the processing of the vast amount of data generated from the biological information flow on different levels (genome, transcriptome, proteome, interactome, signalosome);
- **Biotechnology and structural biology** focuses on the determination of protein structures and the study of the functioning of molecular ’machines’;
- **Biomedical biotechnology** studies the relation between basic cell biological processes and pathological processes (inflammation, cancer, metabolic illnesses) and pays also attention to biomedical applications such as the development of new vaccines and new therapies;
- **Microbial biotechnology** studies microbial diversity and functionality and applies the fundamental knowledge of the molecular genetics of microorganisms such as bacteria, yeast, moulds and viruses in a broad variety of biotechnological applications;
- **Plant biotechnology** aims at the development of biotechnological applications of plants in agriculture (e.g. disease resistance or drought tolerance), production of bio-fuels and the biosynthesis of products with medical applications.

The major is supported by a training period (6 ECTS) in the first master and a master test (30 ECTS) in the second semester of the second master.

The master programme offers four broadening minors:
- **The minor Research** offers the students an extra specialization, chosen from the remaining majors and offers an extra training period (this minor is particularly interesting for English speaking students);
- **The minor Interdisciplinary combination** permits to combine a major with a coherent package of courses from a different field (informatics, chemistry, engineering sciences,...);
- **The minor Education** offers a part of the secondary teacher training;
- **The minor Economics and Business Administration** offers an introduction to different aspects of business life.

**Career perspectives**

A very large number of the current graduates in biochemistry and biotechnology (between 40-60% in the past 5 years), start doctoral studies and most of them graduate successfully. Ghent University has a strong research tradition in the fields of biochemistry and biotechnology, which leads to highly qualified PhDs in an internationally competitive research environment. Later, these doctors find their way to national and international universities, research institutions and a growing number of young biotechnological companies.

The use of biochemical and biotechnological methods and production strategies increases in health care, the environmental sector, food industry, the agricultural industry, the chemical industry. This implies that there is and will be a demand for academically educated, but also practically trained biochemists and bio-technologists. Given the broad scientific basic education, the combination of chemistry and biology, the practical and research-oriented aspects of the study programme, the biochemist and the biotechnologist are well trained for the jobmarket.

The fields of employment are scientific research at universities, research centers, R&D in companies, the pharmaceutical industry, cosmetics companies, laboratories for medical analysis, the food industry, fermentation industry, agricultural industry, petrochemical industry, chemical industry, biotechnological companies, companies in environmental technology, public services for water treatment, the environmental sector.

Finally, graduates in biochemistry and biotechnology often end up in education, both at the level of the secondary schools (for masters) and at the level of the colleges of higher education (for doctors).
Master of Biochemistry and Biotechnology

120 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: DUTCH/ENGLISH • DEGREE: MASTER

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

The course is open to students with at least a Bachelor degree in the field of biochemistry and biotechnology with minimum 180 credits. For Flemish degrees:

- holders of a diploma of secondary education or higher education, where the medium of instruction was English (an official certificate must be submitted);
- students who have successfully completed a predoctoral training programme at Ghent University, provided that the majority of the programme were course units in English.

The exhaustion list of degrees giving access to this master can be consulted in the online course catalogues.

LANGUAGE

At enrolment for an English study programme you must give evidence of a good command of English by submitting one of the following:

- a TOEFL code (paper-based), or 87-109 (internet-based) or higher (the UGent TOEFL code is 2643);
- an original test report form (TRF) from IELTS, maximum two years old, with a minimum score of 6.0;
- a certificate awarded by the University Language Centre (UCT) (this fee does not include expenses such as course books, excursions, travel expenses, etc.)
- a TOEFL-TEST, maximum two years old, with a score of 510-559 (paper-based), or 87-109 (internet-based) or higher (the UGent TOEFL code is 2643);
- an original test report form (TRF) from ELTS, maximum two years old, with a minimum score of 6.0;
- a Cambridge-ESOL: First Certificate in English (FCE).

At enrolment for an English study programme you must give evidence of a good command of English by submitting one of the following:

- a Cambridge-ESOL: First Certificate in English (FCE).
- a Cambridge-ESOL: Certificate of Proficiency in English (CPE).
- a TOEFL code (paper-based), or 87-109 (internet-based) or higher (the UGent TOEFL code is 2643);
- an original test report form (TRF) from IELTS, maximum two years old, with a minimum score of 6.0;
- a certificate awarded by the University Language Centre (UCT) (this fee does not include expenses such as course books, excursions, travel expenses, etc.)
- a TOEFL-TEST, maximum two years old, with a score of 510-559 (paper-based), or 87-109 (internet-based) or higher (the UGent TOEFL code is 2643);
- an original test report form (TRF) from ELTS, maximum two years old, with a minimum score of 6.0;
- a Cambridge-ESOL: First Certificate in English (FCE).
Master of Biology

MAJORS: ECOLOGY • EVOLUTION • BIODIVERSITY • FUNCTIONAL BIOLOGY
MINORS: RESEARCH • ECONOMICS AND BUSINESS ADMINISTRATION • EDUCATION

Course content

The MSc in Biology has a far-reaching influence on numerous areas within science and society. The research domain of biology itself is very broad, and covers the complete spectrum of the diversity of the formation of life and the different organization levels of life, ranging from a cell to the eco-system and biosphere level.

Actual topics and challenges such as protection of endangered species, global change, sustainability, cloning of organisms, dangerous diseases and medical progress have their roots in biology. Biology also contributes to numerous conceptual innovations that lead towards new disciplines such as the molecular biology and biotechnology.

Biology forms an exciting study domain that is constantly in evolution thanks to close interaction with a broad range of scientific disciplines such as chemistry, geology, geography and physics.

Course structure

The master programme of biology offers courses in English and Dutch. It is possible to choose a complete curriculum of English courses. The master programme of Biology or offered by another Flemish University.

The two-year master programme (120 credits) consists of the following parts:

- 20 credits for four general courses;
- 30 credits for the master dissertation;
- 40 credits for major courses;
- 30 credits for minor (elective) courses.

The general courses prepare you for the right choice of your major courses and your master dissertation.

In the first year of the master programme you select two majors from a total of four:

- Ecology
- Evolution
- Biodiversity
- Functional biology

These majors allow you to improve your profound knowledge of the areas of research expertise of Ghent University.

Career perspectives

As a graduate of the master of Biology you can work on scientific research in universities or scientific research institutions, at secondary or higher education level, in counseling or managerial functions with the government and in companies where research and development is the core business.

> Master dissertation

The master dissertation is situated within the research area of at least one of the two major course packages you have chosen. Most master dissertations fit the current national or international (research) projects. However, your master dissertation can also exploit the results of specific projects or it can even have a prospective character regarding future projects.

Besides your two major course packages, you can also choose from three minor course packages. It consists of 30 credits of broadening elective courses, offered within the same master programme of Biology or offered by another Flemish University.

Contact

Ghent University – Faculty of Sciences
International Relations Officer
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Master of Chemistry

This course is offered jointly by Ghent University (UGent) and the Vrije Universiteit Brussel (VUB). Their expertise is combined and the students have a more elaborate choice of majors, elective courses, thesis subjects, etc.

Course content

We owe a great part of our quality of life to the development of sciences, chemistry in particular. Its influence can be found in numerous different branches, such as medicine, biology, agriculture, etc. The chemical impact is also omnipresent in the industrial world. Almost every branch has to do with chemistry at some level: in the production process, in quality control, in product improvement, waste processing …

It can be assumed that chemistry will continue to play an essential role in future developments of society. Indeed, innovation and the development of new products and processes with an added value are simply impossible without a fundamental knowledge of sciences, the structure of molecules and insight into molecular processes and reactions.

Course structure

The master programme of chemistry offers courses in English and Dutch. It is possible to choose a complete curriculum of English courses.

The two-year master programme (120 credits) consists of four modules, of 30 credits each. Each module comprises:

- general courses (incl. elective courses)
- a major
- a master dissertation
- a minor.

The general courses (incl. elective courses) are, on the one hand, general chemistry courses on an advanced level; on the other hand, general courses that are considered as essential for a master’s degree.

There are four different majors to be chosen from: molecular and macromolecular design, materials chemistry, analysis and characterisation, environmental chemistry (VUB). Each major is related with a specific subbranch of chemistry.

In the second year, a research project (master dissertation) is scheduled. The topic of the master dissertation is in accordance with the chosen major.

The minor is a reflection of a specific career branch (education, research and development, industry and management). The minor you choose has no impact on the final degree. Regardless of the minor, an equivalent master degree is obtained. The minor in research and development is particularly interesting for English speaking students.

Career perspectives

It is a fact that chemistry is involved in several industrial branches, important for the economy and employment, such as chemical industry, pharmaceutical industry, agriculture … Thanks to the broadness of the scientific programme, master graduates in chemistry are fit to apply for jobs in different sectors of industry and their possibilities on the job market are very diverse.

Masters in chemistry can for instance be involved in scientific research, product development, quality control … or they can take on managerial functions, and this in companies as well as in government institutions. Besides that, they are also well prepared for a career in the public sector (including education).

The most important assets of university graduated chemists are that they are research minded, have good problem solving capacities and that they are polyvalent.

> Master dissertation

In the second year, a research project (master dissertation) of 30 ECTS is scheduled. The master dissertation is a requirement for every student to obtain a masters’ degree. The master dissertation is an original piece of research work. It aims to develop and strengthen the research capacity of the students. The student selects a topic and is given guidance by a promoter or supervisor.

The master dissertation consists of a literature review part, practical research and an original analysis of the topic. Students have the possibility to do a part of their master dissertation abroad.

Contact

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The following students are exempted from the language requirement:

- Cambridge-ESOL: Certificate of a good command of English by submitting one of the following:
  - TOEFL code is 2643; (paper-based), or 87-109 (internet-based) or higher (the UGent travel expenses, etc.)
  - IELTS, maximum two years old, with a minimum score of 6.0;
  - an original ‘test report form’ (TRF) from IELTS, maximum two years old, with a minimum score of 6.0;
  - a certificate awarded by an (recognised) institution in the Flemish Community;
  - other financing possibilities;
  - advanced Inorganic Chemistry
  - Advanced Chromatography and Organic Mass Spectroscopy
  - Organometallics and Catalysis
  - Organic Chemistry of Natural Products
  - Medicinal Chemistry
- UGent: 
  - TOEFL (old, with a minimum score of 6.0);
  - TOEFL (new, with a minimum score of 80)
  - TOEFL (internet-based), or 87-109 (internet-based) or higher (the UGent
  - Cambridge Certificate of Proficiency in English (CEF-C level B2);
  - Cambridge Certificate of Advanced English (CAE) + a certificate from a (recognised) institution of higher education in the Flemish Community;
  - a diploma of secondary education or higher education, where the medium of instruction was English (an official certificate must be submitted);
  - an original diploma of secondary education or higher education, which is needed by an (recognised) institution in the Flemish Community;
  - students who have successfully completed a predoctoral training programme at Ghent University, provided that the majority of the programme was course units in English.

**Practical Information**

**Application Deadline**

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

**Enrolling Institution**

Ghent University

**Tuition Fee:**

For full-time programme (60 ECTS credits/1 year):
- standard tuition fee: € 564.30
- reduced tuition fee for students from developing countries: € 80

**Scholarships**

- offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis
- other financing possibilities:
  - advanced Inorganic Chemistry
  - Advanced Chromatography and Organic Mass Spectroscopy
  - Organometallics and Catalysis
  - Organic Chemistry of Natural Products
  - Medicinal Chemistry

**Materials Chemistry**

- Computational Chemistry
- Advanced NMR Spectroscopy: Application to Structure Analysis
- Polymer Materials
- X-ray and Laser Spectroscopy
- Advanced Inorganic Chemistry
- Risk Assessment
- Surfacto Analysis
- Solid State Chemistry

**Analysis and Characterisation**

- Surfacto Analysis
- Advanced NMR Spectroscopy: Application to Structure Analysis
- X-ray and Laser Spectroscopy
- Advanced Electrochemical Methods
- Mass Spectroscopy & Isotopic Analysis
- Advanced Chromatography and Organic Mass Spectroscopy
- Risk Assessment
- Field Sampling and Analysis

**Environmental Chemistry**

- Aquatic Environmental Chemistry
- Environmental Analysis
- Modelling of the Environment
- Risk Assessment
- Mass Spectroscopy & Isotopic Analysis
- Advanced Chromatography and Organic Mass Spectroscopy
- Field Sampling and Analysis
- Introduction to the Earth Atmosphere System
- Tropospheric and Stratospheric Chemistry and Global Change

**Career Opportunities**

Courses to be chosen from the study programmes of the Flemish Community

**Master of Chemistry**

**MINORS**

**ELECTIVE COURSES**

**MASTER DISSERTATION**
Course content

The two-year programme Master of Marine and Lacustrine Science and Management (Oceans & Lakes) addresses students with a background in sciences. Oceans & Lakes is an inter-university programme. It provides students a strong fundamental and applied knowledge and prepares them for an active role in the scientific research and management of marine and lacustrine systems. The programme adopts a multidisciplinary approach integrating physical, chemical, geological, ecological and societal aspects and including nature conservation and sustainable development.

Course structure

The programme puts strong emphasis on acquiring skills, both in marine and lacustrine research and management. It requires full-time attendance and active participation in lectures and practical exercises, visits to marine research centers, field trips and excursions.

The course programme consists of 6 parts:

- General courses (for 42 ECTS) with compulsory courses covering disciplines which are considered as essential knowledge for a marine and lacustrine scientist.
- The course programme adopts a multidisciplinary approach integrating physical, chemical, geological, ecological and societal aspects and including nature conservation and sustainable development.
- The exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

Career perspectives

Oceans & Lakes trains students in:
- becoming a multidisciplinary scientist who thinks and works across fields and disciplines;
- playing a key role in high-quality scientific marine and lacustrine research;
- providing advice in management and an integrated concept and view on marine and lacustrine systems;
- becoming critically minded, problem-solving and communicative scientists.

> Master dissertation

In the second year, a research project (master dissertation) of 27 ECTS is scheduled. The master dissertation is a requirement for every student to obtain a masters' degree. The master dissertation is an original piece of research work. It aims to develop and strengthen the research capacity skills of the students. The student selects a topic and is given guidance by a promotor or supervisor. The master dissertation consists of a literature review part, practical research and an original analysis of the topic.

Contact

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oceansandlakes@vub.ac.be

For full-time programme (60 ECTS credits/1 year):
- standard tuition fee: € 564,30
- reduced tuition fee for students from developing countries: € 80
- (this fee does not include expenses such as course books, excursions, travel expenses, etc.)

Scholarships
- offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis
- www.UGent.be > EN > education and study > study support > study-related costs > scholarship
- other financing possibilities:

www.highfondasjon.be > Studying in Flanders
www.studiefondes.be > Funding opportunities

START/END OF THE PROGRAMME
Two year programme
Start academic year: middle of September
Master of Marine and Lacustrine Science and Management

MAJORS: EARTH SYSTEMS • GEO RESOURCES
Organised jointly by Ghent University (UGent) and Catholic University of Leuven (K.U.Leuven)

Course content

The Master of Geology programme offers an in-depth training in general geology and a specialised training in selected disciplines of geology. Furthermore, emphasis is put on acquiring general academic skills such as research and exploration, reporting, co-operation with fellow students and researchers.

The student receives the necessary training to analyse and solve new, broader and more complex geological problems. He/She obtains the scientific attitude to solve these problems by selecting and applying advanced methods (qualitative and quantitative field analysis, direct and indirect observation techniques, physical and chemical analytical techniques, modelling of geological processes, etc).

One should not only have hands-on knowledge of the techniques and the basic principles, but also be able to appraise the potential and the limitations of the different techniques. In a rational and scientific way, he/she is able to process and to report the research results, to publish them in reports and in a master thesis (monograph), and to present and defend these results orally in a structured way, aided by modern communication techniques.

The Master in Geology has the social attitudes and skills to work in an interdisciplinary team with the aim to reach the best possible coherent solution for a specific problem.

Course structure

The master programme (120 ECTS credits) offers the possibility to specialise either in Earth Systems or Geo-Resources (72 ECTS credits each).

Earth Systems focuses on:

– acquiring knowledge and expertise with regard to the analysis and interpretation of the interaction between geosphere (crust and mantle), the hydrosphere, the atmosphere and the biosphere, as basis for the analysis of Global change;
– acquiring insight in the evolution of earth systems and processes in the present and the past;
– acquiring insight in complex geological processes in the framework of the geodynamic evolution of sedimentary basins and mountains. Special attention is paid to the role of fluids in the different processes that occur in the middle and upper crust.

Geo-Resources focuses on:

– acquiring insight in complex geological processes in the framework of the geodynamic evolution of sedimentary basins and mountains. Special attention is paid to the role of fluids in the different processes that occur in the middle and upper crust.
– acquiring knowledge in the exploration and exploitation of natural resources and industrial raw material, in the study and the protection of soils and groundwater; in the detection, qualification and quantification of soil- and groundwater pollution, in the creation and the monitoring of waste disposal sites, in the storage and sequestration of waste products in the subsurface;
– acquiring insight in the scientific as well as professional and ethical aspects of economic geology;
– acquiring an attitude to formulate and develop new research strategies that are relevant for society, with special attention to sustainable development.

Career perspectives

The strong multidisciplinary character of this master programme does not only open the door to innovative research, but also to dynamic industrial sectors, governmental agencies, NGO’s, etc. Students of the master programme of Geology also acquire step by step an enormous advantage: the use of professional English. The world will be your oyster.

Contact

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**MASTER OF GEOLOGY**

**120 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: MASTER**

### ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

The course is open to students with at least a bachelor's degree in the field of geology with minimum 180 credits.

For Flemish degrees:
The exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

#### LANGUAGE

At enrolment for an English study programme you must give evidence of a good command of English by submitting one of the following:

- an original test report form (TRF) from ELTS, maximum two years old, with a minimum score of 6.0;
- a certificate awarded by the University Language Centre (UCT) confirming proficiency in English (minimum CEF-level B2);
- Cambridge-ESOL: First Certificate in English (FCE), Second Certificate in English (C1E), Certificate of Proficiency in English (CPE, minimum score of 6.0);
- a diploma of secondary education or higher education, with a minimum score of 6.0;
- for students who have successfully completed a predoctoral training programme at Ghent University, provided that the majority of the courses and theses were course units in English.

#### TUTION FEES

For full-time programme (60 ECTS credits/1 year):
- standard tuition fee: € 564.30
- reduced tuition fee for students from developing countries: € 80

For Flemish degrees:
- applicable fees for students from the Flemish Community: € 564.30;
- applicable fees for students from the Dutch-speaking part of Belgium: € 564.30;
- applicable fees for students from other EU countries: € 564.30;
- applicable fees for students from a non-EU country: according to the Treaty Between the European Communities and Switzerland, applicable fees for students from a non-EU country: € 564.30.

The exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

#### SCHOLARSHIPS

- awarded by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis.
- www.Ugent.be > EN > education and study > study support > study related costs > scholarship
- other financing possibilities:
  - www.highereducation.be > Studying in Flanders
  - www.studyinflanders.be > Funding opportunities

#### START/END OF THE PROGRAMME

Two year programme
Start academic year: middle of September

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### PRACTICAL INFORMATION

#### APPLICATION DEADLINE

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

#### ENROLLING INSTITUTION

Ghent University

#### TUTION FEES

For full-time programme (60 ECTS credits) per year:
- standard tuition fee: € 564.30
- reduced tuition fee for students from developing countries: € 80

#### SCHOLARSHIPS

- awarded by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis.
- www.Ugent.be > EN > education and study > study support > study related costs > scholarship
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#### START/END OF THE PROGRAMME

Two year programme
Start academic year: middle of September

---

### MASTER

#### GENERAL COURSES

- Applied Sedimentology
  - Exploration Geophysics

#### MAJORS

- 78

#### EARTH SYSTEMS

- Genesis and Evolution of Sedimentary Basins
- Geofluids
- Micropaleontology and Paleo-environment Reconstruction
- Paleoclimatology
- Diagenesis and Low-grade Metamorphism
- Petrogenesis: Magmatic and High-grade Metamorphic Rocks

#### GEO-RESOURCES

- Environmental Soil Evaluation
- Applied Mineralogy
- Groundwater Chemistry
- Analysis and Dynamics of Clays
- Ore-forming Processes

#### GENERAL COURSES

- Exploration Geophysics

#### MAJORS

- 78

#### EARTH SYSTEMS

- Genesis and Evolution of Sedimentary Basins
- Geofluids
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#### GEO-RESOURCES

- Environmental Soil Evaluation
- Applied Mineralogy
- Groundwater Chemistry
- Analysis and Dynamics of Clays
- Ore-forming Processes

#### GENERAL COURSES

- Exploration Geophysics

### MASTER DISSERTATION

- 30
Master of Statistical Data Analysis

Course content

Increasing computer power and the professional need to extract objective information from observed data have led to complex databases. Statistical science has become a broad discipline with well developed methods and techniques for the design and analysis of a wide range of empirical studies. Information obtained from correctly analysed data allows to predict, adjust and even optimise processes based on evidence. Increasing computer power and the professional need to extract objective information from observed data have led to complex databases.

The programme aims at improving problem solving skills and evidence based decision making. This will enable scientists to play a distinctly important role within their field of expertise.

Computational skills, flexibility, efficiency and a positive attitude towards lifelong learning are important qualities and indispensable for a successful career.

Career perspectives

Students who successfully finish the master programme have acquired an advanced level of statistical knowledge and data analytical skills. They are ready to contribute as independent experts to a multidisciplinary team that designs, performs, analyses and reports applied scientific research. There is a great demand in industry, banking, government, academia and research centres (both the profit and the non-profit making sector).

The masters are trained to handle practical problems in an objective scientific manner and to obtain insight in the structure of data and the underlying model. Our masters have been encouraged to think critically and be creative problem solvers. Computational skills, flexibility, efficiency and a positive attitude towards lifelong learning are important qualities and indispensable for a successful career.

Course structure

The programme (60 credits) consists of five mandatory general courses (26 credits), elective courses (19 credits) and a master dissertation (15 credits).

In every course, the theory is supported by projects and assignments in order to develop skills of practical data analysis. It thus provides hands-on experience with real data.

The programme is taken either as a one year full-time programme or it can be spread over two or more years. Several courses are taught in the evening.

> Master dissertation

During the second term the students finish the master dissertation. The master dissertation provides students with the unique opportunity to learn first hand from an experienced statistician how the statistical method gets applied to solve real world problems. This is an important component of the programme. Students report on their methods and results both orally and in writing.

Contact

Ghent University
Department of Applied Mathematics and Computer Science
Krijgslaan 281 S9, B-9000 Gent
Prof. Stijn Vansteelandt
Stijn.Vansteelandt@UGent.be
T +32 109 264 47 76
http://www.stat.unige.ch/

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Master of Statistical Data Analysis

**Preparatory Course Programme**

Courses, to a total amount of at least 15 and max. 60 credits, depending on the student’s previous degree, from the bachelor’s and master’s programmes of which the master’s programmes give immediate admission to Master of Statistical Data Analysis.

**Course Content**

**Elective Courses**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Statistical Data Analysis</td>
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<tr>
<td>Statistical Computing</td>
<td>5</td>
</tr>
<tr>
<td>Statistical Inference</td>
<td>5</td>
</tr>
<tr>
<td>Analysis of Continuous Data</td>
<td>5</td>
</tr>
<tr>
<td>Categorical Data Analysis</td>
<td>5</td>
</tr>
</tbody>
</table>

**General Courses**

- **General Courses**
  - Principles of Statistical Data Analysis: 5 credits
  - Statistical Computing: 5 credits
  - Statistical Inference: 5 credits
  - Analysis of Continuous Data: 5 credits
  - Categorical Data Analysis: 5 credits

**Elective Courses**

- **Elective Courses**
  - 19 credits to be chosen from the following list: 6 credits from the study programme of Ghent University and other institutions of Higher education of the Flemish Community:
  - Analysis of Univariate Time Series: 5 credits
  - Causal Analysis and Missing Data: 5 credits
  - Data Mining: 5 credits
  - Epidemiology: 5 credits
  - Longitudinal Data Analysis: 5 credits
  - Monte Carlo and Computer Intensive Methods in Statistics: 5 credits
  - Multivariate Data Analysis: 5 credits
  - Survival Analysis: 5 credits
  - Experimental Design: 5 credits
  - Spatial Statistics: 5 credits
  - Computational Biology: 5 credits

**Master Dissertation**

- 15 credits to be chosen from the following list: 4 credits from the study programmes of Ghent University and other institutions of Higher education of the Flemish Community:
  - Analysis of Univariate Time Series: 5 credits
  - Causal Analysis and Missing Data: 5 credits
  - Data Mining: 5 credits
  - Epidemiology: 5 credits
  - Longitudinal Data Analysis: 5 credits
  - Monte Carlo and Computer Intensive Methods in Statistics: 5 credits
  - Multivariate Data Analysis: 5 credits
  - Survival Analysis: 5 credits
  - Experimental Design: 5 credits
  - Spatial Statistics: 5 credits
  - Computational Biology: 5 credits

**Course Structure**

The programme is conceived as a postgraduate (master-after-master) programme and as such addresses students who have successfully completed an initial master programme in either the humanities and social sciences, exact sciences and technology, or biomedical sciences.

The interdisciplinary nature of the programme is set by the requirement that all students follow a common trunk of 25 credits of introductory courses. The goal is to get the students acquainted with the different aspects that form the foundation of space-related activities. Special attentions goes to the combination of high level of knowledge transfer with the diverse backgrounds of the students.

Depending on their background and interest, students have the opportunity to deepen their knowledge through more domain-specific optional courses, for a total of 20 credits, covering the domains of (A) Space Law, Policy, Business and Management; (B) Space Sciences; and (C) Space Technology and Applications.

**Career Perspectives**

The technological challenges and innovative programs that typically characterise space projects make the space industry an essential vehicle to help keep our society at the forefront of innovation and research. The international character of many space projects makes the space industry also a very important element in the positioning of Europe worldwide. Therefore space industries will, for the foreseeable future, remain a growing and in some areas even booming business, with many career opportunities.

On the Flemish level, there is the “Vereniging van Vlaamse Ruimtevaartindustriëlen” (VRI), which fosters the growth of the local industries. As already mentioned, there is ESA that works on a European basis in a developing and growing research environment, where they will acquire the more specific skills necessary for their particular job. The master has an international scope and audience and is taught in English.
Master of Space Studies

60 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: MASTER

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Students should possess already a 'disciplinary' master degree. Candidate students are specifically expected to:
- have obtained an initial master degree for which the candidates can motivate the relevance for space studies;
- have the potential to successfully broaden their formation towards other relevant disciplines;
- present a convincing view of the importance of the programme for their professional expectations.

These expectations will be evaluated through an intake interview. Interested candidates are invited to send their CV and a comprehensive motivation to MSApplication@stirleuven.be.

The selection with respect to the initial master degree is designed to increase the student’s chances for success. However, students with an initial master that does not have a direct apparent connection with space studies can still apply, and could be accepted depending on the power of conviction of their background and argumentation.

LANGUAGE

A solid knowledge of the English language, both written and spoken, is essential. Non-native English speakers are required to submit a TOEFL (minimum 550 points or IELTS 6.5) or an equivalent. All international students must meet the language requirements set by the International Admissions & Mobility Unit of K.U.Leuven.

PRACTICAL INFORMATION

APPLICATION DEADLINE

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

ENROLLING INSTITUTION

2010-2011: K.U.Leuven

TUITION FEE

The cost of registration is €5,600

Scholarships

> offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis.
www.UGent.be > EN > education and study > study support > study related costs > scholarship > other financing possibilities: www.highereducation.be > Studying in Flanders wwwstudyinfo.flanders.be > Funding opportunities

START/END OF THE PROGRAMME

One year programme.
Start academic year: middle of September.

Course content

This international distance e-course is aimed at training scientists and law specialists in biosafety expertise and evaluation.

The course offers a solid basis to set up and implement regulatory biosafety frameworks related to plant biotechnology, to assist in the legal implementation of biosafety risk assessment, and to communicate to policymakers.

The course is interdisciplinary, in cooperation with the Faculties of Science, Political and Social sciences and the Law Faculty. It is an international programme organised in cooperation with the United Nations Industrial Development Organisation (UNIDO).

Objectives: To provide students with:
- expert information on current and potential future developments in biotechnology;
- expert information on national and international norms and regulations in biotechnology;
- advanced skills to conduct risk assessments;
- apply risk management in biotechnology;
- risk communication skills.

Course structure

The programme includes an introductory section on plant biotechnology and its applications for agriculture and industry. The main course covers the basics of risk assessment and regulatory structures, food and feed safety assessment, and environmental safety assessment. An overview of national and international regulatory systems and risk assessment and applications is included. The final section deals with risk perception and communication. At the end of the course participants will be able to conduct risk assessments and apply risk management options, while at the same time deal with public policy issues at the interface of science, government, industry, and civil society.

Postgraduate Studies in Biosafety in Plant Biotechnology

Organised by distance learning

The course is given electronically through e-learning. Two on-campus periods are included: one in the beginning of the course at IPBO, Ghent University (BE) and one at the end. Evaluation is carried out throughout the year through interactive discussions, assignments, and written and oral exams during the second on campus session at the end of the course.

Career perspectives

The certificate awarded is suitable for individuals engaged as biosafety professionals in government agencies or industry. It is also tailored for individuals with an interest in public policy, legal and ethical aspects of biotechnology.

> Organising Institutions

The course is given in cooperation with the United Nations Industrial Development Organisation (UNIDO) as part of their e-Biosafety network with nodes in Brazil and Italy (The Pontifical Catholic University of Sao Paulo and the Marche Polytechnic University Ancona).

Contact

Ghent University - Faculty of Science
IPBO – Dr. I. Pertry
K.L. Ledeganckstraat 35
B-9000 Belgium

Ine.Pertry@UGent.be - mamon@psb.vib-UGent.be
www.ipbo.UGent.be

Postgraduate Studies in Plant Biotechnology
Postgraduate Studies in Biosafety in Plant Biotechnology

60 ECTS CREDITS • FULL-TIME • LANGUAGE: ENGLISH • DEGREE: CERTIFICATE OF POSTGRADUATE STUDIES

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

The general admission requirement is that the student must possess a master degree or an international degree considered equivalent. An applicant wishing to gain admission for a postgraduate on the basis of an international diploma must apply through a specific application procedure.

A maximum of 25 students will be accepted. Selection will take place based on the curriculum vitae of the applicant and will take into account the professional interest in biosafety issues related to biotechnology.

The student should be holder of one of the following diplomas:
- Master in Biology
- Master in Chemistry
- Master in Biochemistry and Biotechnology
- Master in Bio-engineering Sciences
- Master in Medicine
- Master in Law

Master degrees considered equivalent with one of the degrees mentioned above.

LANGUAGE

At enrolment for an English study programme you must give evidence of a good command of English by submitting one of the following:
- a certificate which attests that the language of instruction of one year successfully studies or a major part of it was in English;
- a TOEFL TEST, maximum two years old, with a score of at least 550 (paper-based), or 213 (computer-based) or 79 (internet-based) (the UGent TOEFL code is 2643);
- a certificate awarded by the UCT (University Language Centre) confirming proficiency in English (minimum CEF-level B2);
- a certificate of the British Council with an overall band of 5.5.

Students whose knowledge is insufficient may be obliged to follow an English language course. Non native speakers are strongly advised to follow the course of ‘Scientific English’ prior to the start of the academic year.

PRACTICAL INFORMATION

APPLICATION DEADLINE
June 1st

ENROLLING INSTITUTION
Ghent University
See also:
www.UGent.be/widenet/cplits/enrollment
www.UGent.be/widenet/cplits/enrollment/postgraduate.htm

TUITION FEE
€ 660;
€ 520 for students from least developed countries;
students working in the private sector pay a supplementary tuition fee of max. € 2,375.

SCHOLARSHIPS
General information:
www.highereducation.be > Studying in Flanders
www.studyinflanders.be > Funding opportunities

START END OF THE PROGRAMME
One year programme.
Start academic year: last week of September.

STUDY PROGRAMME

GENERAL COURSES
Course Background 3
Applications of Plant Biotechnology 10
Theoretical and Practical Foundations of Biological Risk Assessment 12
Food and Feed Safety in relation to GMOs 8
Environmental Safety in relation to GMOs 9
National and International Regulatory Systems in relation to GMOs 7
Risk Perception and Risk Communication in relation to GMOs 11

Postgraduate Studies in Weather and Climate Modeling

Organised jointly by Ghent University and partner institutions: Royal Meteorological Institute of Belgium - Belgoclim

Course content

The issue of climate change has come recently under the attention of policy makers and the public alike, but high-impact weather (such as severe thunderstorms with associated flooding, deep cyclones with strong wind gusts, etc.) has been a major worry for centuries.

Only now have scientific knowledge and numerical techniques become sufficiently mature that we may be able to effectively predict these extreme conditions. International programmes such as THORPEX therefore recently started to increase the research in those areas.

Ghent University (in collaboration with the Royal Meteorological Institute) anticipates the present increase in international attention for high-impact weather and air pollution and offers a study programme that also focuses on these issues rather than only on climate change.

The Postgraduate Studies in Weather and Climate modelling offers the essential courses needed to start research in meteorology and numerical weather prediction.

Course structure

The study programme covers nine courses which have a total weight of 33 ECTS in two semesters (in one academic year).

Career perspectives

The ultimate goal is to prepare young scientists for research in international projects such as THORPEX (http://www.wmo.int/thorpex/about.html). This 10-year international global atmospheric research and development programme was established by the WMO (in 2003) and is aimed at reducing and mitigating the impact of disasters by transforming forecasts into information for decision making. This includes:

- extending the range and accuracy of weather forecasts;
- development of warnings for decision-making;
- assessing the impact of weather forecasts in the strategies to minimize the impact of disasters.

The Postgraduate Studies in Weather and Climate Modelling offers the essential courses needed to start research in meteorology and numerical weather prediction.

Contact

Ghent University - Faculty of Science
Department of Mathematical Physics and Astronomy
Krijgslaan 281 (S9), B-9000 Gent
Mr. Steven Caluwaerts
Steven.Caluwaerts@UGent.be
Room 120.032 in building 59 of Sterre Campus
http://wms.UGent.be/mteo_zwp/
Postgraduate Studies in Weather and Climate Modeling

33 ECTS CREDITS • PART-TIME • LANGUAGE: ENGLISH • DEGREE: CERTIFICATE OF POSTGRADUATE STUDIES

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

The postgraduate course requires some physical and mathematical background from the students. Therefore there are two groups of students who can start with these studies:

Masters who have admission to the programme:
- Master in the earth sciences
- Master in geophysics and geodesy
- Master in geobotany
- Master in biology
- Master in agronomy
- Master in atmospheric sciences
- Master in civil engineering
- Master in environmental engineering
- Any other Master degree

Masters who have access subject to approval:
- Master in the environmental informatics
- Master of environmental sciences
- Master in the chemistry
- Master in the biochemistry and biotechnology
- Master in environmental biology
- Master in marine and limnological sciences
- Master of meteorology
- Master in meteorological sciences
- Master in the aeronautical sciences
- Master in the aerospace sciences
- Master in the electronics and electrical engineering
- Master of environmental sciences
- Any other Master degree

LANGUAGE

At enrolment for an English study programme you must give evidence of a good command of English by submitting one of the following:
- TOEFL-TEST, maximum two years old, with a score of 510-559 (paper-based), or 87-109 (internet-based) or higher (the UGent English, or Preparing for an English Test, awarded by the UCT);
- Cambridge-ESOL: First Certificate in English (FCE), or Certificate in Advanced English (CAE), or Certificate of Proficiency in English (CPE), or Certificate of Qualification in English (CQE), or Certificate of Primary Education in English, or Diploma of Secondary Education, or International Baccalaureate, or the Cambridge Secondary English certificate (trinity)

At enrolment for an English study programme you must give evidence of a good command of English by submitting one of the following:
- Cambridge-ESOL: First Certificate in English (FCE).

The following students are exempted from the language requirement:

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

ENROLLING INSTITUTION

Ghent University

TUTION FEE

33 ECTS credits: € 576,30
(credit contract: € 61,50 + credits x € 15,60)

SCHOLARSHIPS

General information:
- www.highereducation.be > Study in Flanders
- www.studyinflanders.be > Funding opportunities

START AND END OF THE PROGRAMME

One year programme.
Start academic year: last week of September.

STUDY PROGRAMME

GENERAL COURSES

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
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<tr>
<td>Dynamic Meteorology</td>
<td>4</td>
</tr>
<tr>
<td>Physical Meteorology</td>
<td>3</td>
</tr>
<tr>
<td>Numerical Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Data Assimilation</td>
<td>3</td>
</tr>
<tr>
<td>Atmospheric Modeling</td>
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<td>Predictability</td>
<td>3</td>
</tr>
<tr>
<td>Air Pollution and Chemical Transport Models (CTM)</td>
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<tr>
<td>Remote Sensing</td>
<td>3</td>
</tr>
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<td>Climatology</td>
<td>3</td>
</tr>
</tbody>
</table>

PRACTICAL INFORMATION

APPLICATION DEADLINE

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

MASTER OF PHOTONICS SCIENCE AND ENGINEERING

Organised jointly by Ghent University (UGent) and Vrije Universiteit Brussel (VUB)

Course content

Photonics is now widely recognised as a major innovation enabling discipline for the 21st century. It can be defined as that field of science and technology where the fundamental properties of light and its interaction with matter are studied and applied.

Since several decades photonics has been penetrating in ever more applications and household appliances. At present, photonics is a discipline of key importance in industrial sectors such as tele- and data communication, display and camera industry, biotechnology, solar energy, medical instrumentation, laser material processing, etc.

The Master of Photonics Science and Engineering is a multi-disciplinary programme covering basic physics, material technologies, electronics and applications in different fields. Students will be trained to become specialists in the field. In addition, students will be brought in contact with European culture and will get the chance to live in two Belgium cities (Brussels and Ghent) with a long and still visible history.

Course structure

The Master of Photonics Science and Engineering is a 2-year (120 credits) fully English-taught programme, with the students spending their first year one semester at each university (UGent and VUB) and their second year in one of both (UGent or VUB), with the choice made by the student.

The programme is based on 4 pillars: a strong backbone of core photonics, specialisation in a broad spectrum of advanced photonics, a secondary specialisation in a related field (telecom, biomedical engineering etc.) and a master thesis.

The first year is mainly devoted to a programme of core photonics courses, complemented by a number of advanced photonics courses as well as a number of multidisciplinary courses. In the second year the students continue to take advanced photonics courses and multidisciplinary courses and do their master thesis in a field of their interest.

During the first year, the students spend the first semester at UGent and the second semester at VUB. They take core photonics courses for 44 credits and elective courses for the remaining 16 credits. The second year the students take more elective courses and 24 credits master dissertation. The elective courses are chosen from:
- courses for minimally 16 credits from the list of elective courses in Photonics;
- courses for minimally 20 credits from the Engineering Master programmes of the Faculty of Engineering at UGent or VUB;
- courses for minimally 6 credits from the list of socio-economic courses of the Faculty of Engineering at UGent or VUB.

During the second year, the students choose to study either at UGent or VUB. The programme consists of one general course (4 credits), the rest of the time is devoted to elective courses (32 credits) and the master dissertation (24 credits).

Career perspectives

Graduates are expected to go on to a broad range of future opportunities, including:
- research in high-technology companies, in particular photonics-related companies;
- research in academic laboratories and research institutes (possibly in PhD context);
- development of new photonic products in industry;
- technical support in a company for its products or services;
- technical marketing and sales.

Contact

Ghent University – Department of Information Technology
Prof. Roel Baets – Chair Programme Board
Sint-Pietersnieuwstraat 41, 8-9000 Gent
roel.bae@ugent.be +32 (0) 9 264 53 93
Bert Coron – Photonics Support Officer
Sint-Pietersnieuwstraat 41, 8-9000 Gent
bert.coron@ugent.be +32 (0) 9 264 98 71

Sint-Pietersnieuwstraat 41, B-9000 Gent
www.studyinflanders.be > Funding opportunities

General information:
- www.highereducation.be > Study in Flanders
- www.studyinflanders.be > Funding opportunities

STUDY PROGRAMME

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</tr>
</tbody>
</table>
Master of Photonics Science and Engineering

120 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: MASTER

ADMISSION REQUIREMENTS
FOR INTERNATIONAL DEGREE STUDENTS

Foreign students need to be in possession of a bachelor degree in Electrical engineering, in (Applied) Physics, Material Science or an equivalent of this to be admitted to the programme.

Students in possession of another bachelor degree might need to follow a preparatory programme. The educational board will make the final decision whether to accept the application or not.

For Flemish degrees:
the exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

LANGUAGE
Sufficient English language ability. The following shall be accepted as sufficient proof:
– the prospective student has already successfully completed a one-year English-language study programme, either at a different institution of higher education or at a secondary school; a TOEFL-TEST, taken as recently as within the last two years, showing a score of at least 570 (paper-based) or 87 (internet-based);
– an original “test report from” (TRF) from IELTS, issued as recently as within the last two years, showing a score of at least 6.5, with a minimum of 6.0 per each part.

If prospective students hold a secondary education diploma, an academic Bachelor’s diploma or a Master’s diploma awarded by an educational institution that is duly recognised by the Flemish Community, no proof of sufficient English language ability must be provided.

PRACTICAL INFORMATION

APPLICATION DEADLINE
General deadlines:
– for students who need a visa: 1st of March
– for students who do not need a visa: 1st of June

ENROLLING INSTITUTION
Ghent University or VUB

TUITION FEE
For full-time programme (60 ECTS credits/1 year):
– standard tuition fee: € 564.30
– reduced tuition fee for students from developing countries: € 80

SCHOLARSHIPS
– offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis

START/END OF THE PROGRAMME
Two year programme.
The programme starts in the beginning of September.

MASTER DISSERTATION
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MASTER

GENERAL COURSES
UGENT
Mathematics in Photonics
4
Dutch Language Course
4
Microphotonics
6
Optical Materials
6
Lasers
4
Recent Trends in Photonics
4

VUB
Optical Communication Systems
6
Photonics Laboratory
4
Physics of Technological Processes
4
Sensors and Microsystem Electronics
6
Recent Trends in Photonics
4

ELECTIVE COURSES
– courses for min. 16 credits from the master programmes of the Faculty of Engineering at UGent or VUB
– courses for min. 6 credits from the socio-economic courses of the Faculty of Engineering at UGent or VUB
– courses for min. 20 credits from an elective course list
– courses for max. 6 credits from the study programmes of UGent or VUB

48
Organising institutes
Five leading research and educational institutions in Europe collaborate to offer a joint Erasmus Mundus Master of Science programme in Photonics, providing a top-quality education in all aspects of photonics. The master programme has a duration of two years (120 ECTS credits), with students spending a year in two different countries:

Co-ordinator: Ghent University (Belgium).
Partners: Vrije Universiteit Brussel (Belgium), St Andrews University and Heriot-Watt University (U.K.), Royal Institute of Technology, Stockholm (Sweden).

Course content
Photonics is now widely recognized as a major innovation enabling disciplines for the 21st century. It can be defined as that field of science and technology where the fundamental properties of light and its interaction with matter are studied and applied.

Since several decades, photonics has been penetrating increasingly in applications and household appliances. At present, photonics is a discipline of key importance in industrial sectors such as tele- and data communication, display and camera industry, biotechnology, solar energy, medical instrumentation, laser material processing etc.

The Erasmus Mundus: Master of Science in Photonics builds upon 3 local MSc programmes in Belgium, Sweden and the UK. The research activities of the five involved universities cover nearly all relevant fundamental research (e.g. nano- and micro-photonics components in silicon, II-VI semiconductors and polymers, femto- and second-laser) and applications (e.g. optical sensing, data and telecommunications, quantum cryptography, displays).

The Master of Science programme in Photonics is a multidisciplinary programme covering basic physics, material technologies, electronics and applications in different fields. Students will be trained to become specialists in the field. In addition, students will be brought in contact with European culture and languages, and will get the chance to live in several European cities (Brussels, Edinburgh, Ghent, Saint-Andrews and Stockholm) with a long and still visible history.

Course structure
The Erasmus Mundus MSc programme in Photonics is a 2-year (4 semesters - 120 ECTS credits) program, with a fixed mobility track.

First semester: takes place in Belgium at Ghent University and is devoted to foundational aspects of photonics and research skills in photonics.

Second semester: takes place in Sweden at the Royal Institute of Technology KTH and is devoted to engineering skills in photonics and to applications of photonics.

Third semester: takes place in Scotland, U.K. at the University of St Andrews and is devoted to advanced photonics and research skills in photonics.

Fourth semester: is entirely devoted to the master dissertation. The location of the fourth semester depends on the student’s thesis choice. The thesis can take place in all partner universities and also in one of the three associated academic partners.

Each year is concluded by a Summer School whereby first and second year students meet, do project, attend lectures of world-renowned speakers in the field of photonics. Furthermore, during the summer break after year 1, students can do an academic or industrial internship in a photonics company or research institute.

Career perspectives
The aim of this master programme is to form engineers and scientists with firm basic knowledge in the field of photonics and with the skills to apply this knowledge to the design, realisation and the management of photonic systems for a broad range of application domains.

Furthermore the students will have the opportunity to broaden their knowledge and skills in other domains, such as ICT, biosciences, physics and chemistry of materials, industrial management etc. Therefore graduates are expected to work in a broad range of future opportunities, including: research in high-technology companies, in particular photonics-related companies; research in academic laboratories and research institutes (possibly in PhD context); development of new photonic products in industry; technical support in a company for its products or services; technical marketing and sales.

Contact
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Fax: +32 (0) 9 264 35 93 - EMMP@intec.UGent.be
www.master-photonics.org

Master of Science in Photonics
ERASMUS MUNDUS MASTER PROGRAMME JOINTLY OFFERED BY GHENT UNIVERSITY AND PARTNERS

For EU-students:
- € 3,500 (annually)
- € 7,000 (full-time)

For non-EU students:
- € 12,500 (annually)
- € 25,000 (full-time)

CONTACT Ghent University - Master Photonics
Tel: +32 (0) 9 264 33 39 (Photonics Secretariat)
Fax: +32 (0) 9 264 35 93 - EMMP@intec.UGent.be
www.master-photonics.org

AMOUNT: 120 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: MASTER

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

A bachelor’s degree or recognized equivalent from an accredited institution (minimum three years full-time study or 180 ECTS credits) in Electrical Engineering, Applied Physics, Physics, Materials Science or a related discipline. Students in their last year of such a bachelor’s programme will however also be considered.

For Flemish degrees: the exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

LANGUAGE

Sufficient English language ability. The following shall be accepted as sufficient proof:
- the prospective student has already successfully completed a one-year English-language study programme, either at a different institution of higher education or at a secondary school; a TOEFL-IBT taken as recently as within the last two years, showing a score of at least 710 (paper-based) or 87 (internet-based); an original “test report form” (TRF) from IELTS, issued as recently as within the last two years, showing a score of at least 6.5, with a minimum of 6.0 per each part.
- If prospective students hold a secondary education diploma, an academic Bachelor’s diploma or a Master’s diploma awarded by an educational institution that is duly recognised by the Flemish Community, no proof of sufficient English language ability must be provided.

PRACTICAL INFORMATION

APPLICATION DEADLINE
- For non-EU students: 15 January
- Paper submission: 20 January

For EU-students:
- Overall deadline: 31 May

www.master-photonics.org

ENROLLING INSTITUTION
Ghent University

TUITION FEE
- For non-EU students: € 7,500 (annually)
- For EU-students: € 2,500 (annually)

SCHOLARSHIPS
- For non-EU students: Erasmus Mundus grants
- For EU students: UGent Excellence Grants

START/END OF THE PROGRAMME
Starts with the beginning of the academic year (depending on entry institute), Two-year programme.
Organising institutes
By forming a network of institutes the European Master in Nuclear Fusion Science and Engineering Physics (FUSION-EP) programme builds on excellent competencies in the areas of high-level multinational research-oriented education in fusion-related engineering physics in close relation to the research activities of the partners, and with a well integrated language and cultural experience. The joint FUSION-EP programme is offered by Ghent University, Belgium (co-ordinator); Universität Heidelberg, Germany; Université Paul Sabatier, Toulouse, France; University of Wisconsin-Madison (USA); University of Cambridge (UK); Kungliga Tekniska Högskolan Stockholm, Sweden; Universidade Complutense de Madrid, Spain; Universidad Carlos III de Madrid, Spain; Universidad Politecnica de Madrid, Spain; Universität Stuttgart, Germany. The joint or multiple degrees are recognised in Belgium, France, Sweden, Spain and Germany. Thanks to action 3, European students can also spend three months in the second year in one of the following institutes: UCLA (USA); University of Wisconsin-Madison (USA); St. Petersburg State Polytechnic University (Russia); Moscow Engineering Physics Institute (Russia); University of Science and Technology of China (China).

Course content
The studies in Engineering Physics are devoted to the technical applications of physics and strongly supported by the research activities in the different laboratories within the Consortium. By combining the basic concepts of a degree in engineering with the essentials of an education as an engineering physicist, these studies seek to train engineers capable of performing or leading technical and scientific research in universities, research establishments or industry. The engineering component of the studies makes the physics engineer familiar with the analysis, design and optimisation of new and existing systems, products, machines, materials, etc., in which simplification to manageable system descriptions (from rules of thumb to expert systems) is essential. In the physics component the reductionist approach holds centre stage: here experiments and mathematical modelling seek to reduce physical phenomena to their very essence and to discover the physical laws applicable. Even though the approach has a more philosophical slant, the rigorous attitude is essential, and a physical theory should stand a validation by experiment. Physicists are trained, first and foremost, for R&D purposes. Their wide-ranging education makes them fit for all companies and research establishments where interdisciplinary R&D requires in-depth knowledge of physics. They will constitute a substantial percentage of the large number of additional researchers required for the establishment of the EU as the best centre of excellence in the world. Both components of the studies especially qualify the physics engineer to fill executive jobs at a later stage.

Course structure
Student mobility is an inherent part of the programme structure and philosophy. We propose the following concrete mobility scheme. Each student resides at three universities in three different countries (60 ECTS credits at university A, 30 at B and 30 at C). Furthermore all students meet in the yearly summer event. Scholar co-operation and mobility is particularly promoted by the structural connection between the specialised track education provided in semester 3 and the master thesis in the same track in semester 4. Two Master thesis tutors (responsible to guide the student in the 3rd and 4th semester) are assigned to each student. The summer event plays a crucial role here, but this is only the yearly culmination point of contacts between the involved teachers and research groups. The two-year FUSION-EP programme is organised over four semesters. The total training programme has to amount up to 120 ECTS and fulfil certain requirements concerning mobility. This ensures a Master programme with a strong common standard and a maximum flexibility to accommodate for students with different interests, language knowledge and background. EU students can spend three months in one of the partner institutions in China, Russia or USA in the second Master (action 3).

Career perspectives
The EU fusion programme is at the forefront of international fusion research and engineering. Fusion research is entering a new phase. The construction of ITER, the Broader Approach activities, and the preparation for DEMO require an expansion of the fusion programme and a shift of the emphasis from plasma physics to engineering and nuclear materials. There is also a growing need for competences on nuclear project related issues such as project management, nuclear licensing, quality assurance, risk assessment, and management of procurement processes, as well as a need for stronger collaboration with industry. During the first 10 year period, the ITER Organisation will have a need for graduates in project-oriented fusion technology, diagnostics, plasma heating, modeling and computing. During the subsequent 20 year phase, its need will evolve progressively towards experimental plasma physics and data analysis.

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Guido.VanOest@Gent.be
http://www.master-fusion.org/
International Master of Science in Fire Safety Engineering

Erasmus Mundus Master Programme jointly organised by Ghent University (Belgium, co-ordinator), University of Edinburgh (UK) and Lund University (Sweden)

Course content

There is a strong European trend from prescriptive towards performance-based fire safety designs. This goes hand in hand with a strong need for advanced knowledge in the multidisciplinary field of Fire Safety Engineering (FSE).

The master students will be very well prepared for professional activities within this evolving field of FSE, as they will obtain a broad high level knowledge as a benefit from the joint expertise of three partners with a leading role in FSE research and education in Europe.

The IMFSE students will learn how to:
- master the scientific knowledge to understand, critically evaluate and analyze the phenomenon fire and its consequences;
- critically evaluate and judge risk with respect to fire and explosions;
- compute and design different types of fire protection concerning structures, passive fire protection, detection and suppression;
- judge the human behaviour in case of fire;
- communicate and collaborate with colleagues within the multidisciplinary domain of Fire Safety Engineering.

The first semester, covering basic topics in fire safety engineering, from the strengths and expertise of each of the three universities. The second semester is again taught in Ghent (for general FSE) or Edinburgh (with focus on fire and structures engineering in the context of FSE).

The third semester is again taught in Ghent (for general FSE) or Edinburgh (with focus on fire and structures engineering in the context of FSE).

The fourth semester is devoted to the master dissertation, hosted by one or more of the three universities.

> Master dissertation

The Master thesis consists of a general project, supervised by at least one of the three partner universities. The master dissertation is a requirement for every candidate to obtain a master degree. The master dissertation is an original piece of research work. It aims to develop and strengthen the research capacity skills of the students. The student selects a topic and is given guidance by a promoter or supervisor. The master dissertation consists of a literature review part, a theoretical reflection and an original analysis of the topic.

Career perspectives

The masters can find a job as fire safety engineer:
- in specialised consultancies;
- in design bureaus for structural stability and/or technical equipment of buildings;
- in architectural and design firms;
- in fire prevention services of larger cities;
- as responsible person for fire prevention in large industrial complexes;
- in prevention departments of fire brigades;
- in fire protection equipment industry;
- as fire experts in insurance companies;
- as fire experts in authorities;
- in standard testing laboratories;
- in environmental impact assessment consultancies;
- in health and safety organisations;
- in research and education institutes.

All students spend the second semester in Lund, with emphasis on enclosure fire dynamics, risk analysis and human behaviour. The third semester is again taught in Ghent (for general FSE) or Edinburgh (with focus on fire and structures engineering in the context of FSE).

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International Master of Science in Fire Safety Engineering

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- in health and safety organisations;
- in research and education institutes.

Contact

Erasmus Mundus IMFSE Coordinator: Prof. Bart Merci
Erasmus Mundus IMFSE Administrator: Elise Meerburg

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E-mail: IMFSE@UGent.be
www.imfsa.ugent.be

ADMISSION REQUIREMENTS

FOR INTERNATIONAL DEGREE STUDENTS

A bachelor's degree or recognized equivalent from an accredited institution (minimum 3 years full-time study of 180 ECTS credits in civil, structural, mechanical, electrical, chemical, industrial engineering, material sciences, chemistry physics, applied physics, architecture, urbanism and spatial planning or a related discipline). Students in their last year of such a bachelor programme will however also be considered.

For Flemish degree:
- the exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

LANGUAGE

English language ability is a basic requirement, therefore the applicants must provide us one of the following certificates as a proof of their knowledge:
- a recent (+ maximum two years old) TOEFL Certificate; minimum score is 570 (paper-based), or 84 (internet-based) or higher (the institution code for Ghent University is 2643);
- an original "test report form" (TRF) from IELTS, maximum two years old, with a minimum score of 6.5;
- a recent certificate of a University Language Centre testifying that the student masters the necessary knowledge of English to function academically (the minimum CEF-level is C1);
- an official certificate from your university stating that the standard language of instruction in at least 3 full time years of your Bachelor and/or Master degree was English (if applicable).

MASTER COURSES

BASED ON

90

Basics of Structural Engineering
9
Introduction to Fire Dynamics
9
Thermodynamics, Heat and Mass Transfer
6
Language and Culture
6
Explosions and Industrial Fire Safety
6
Passive Fire Protection
6
Active Fire Protection I: Detection and Suppression
6
Active Fire Protection II: Smoke and Heat Control
6
Fire Safety Regulation
3
Performance-Based Design
3

MASTER DISSERTATION

30
Postgraduate Studies in Fire Safety Engineering

Course content

The fire safety engineer understands and applies fire safety engineering (FSE). According to ISO TR 13387-1, fire safety engineering is the application of engineering principles, rules and expert judgement based on a scientific appreciation of the fire phenomena, of the effects of fire and of the reaction and behaviour of people, in order to:

- save life, protect property and preserve the environment and heritage;
- quantify the hazards and risk of fire and its effects;
- evaluate analytically the optimum protective and preventative measures necessary to limit, within prescribed levels, the consequences of fire.

These objectives will be achieved by a variety of means including activities such as:

- the assessment of the hazards and risks of fire and its effects;
- the mitigation of potential fire damage by proper design, construction, arrangement, and use of buildings, materials, structures, industrial processes, transportation systems and similar;
- determining the appropriate level of evaluation for the optimum preventive and protective measures necessary to limit the consequences of fire;
- the design, installation, maintenance and/or development of fire detection, fire suppression, fire control and fire related communication systems and equipment;
- the direction and control of appropriate equipment and manpower in the strategy and function of firefighting and rescue operations;
- post fire investigation and analysis, evaluation and feedback.

A fire engineer, by education, training and experience:

- understands the nature and characteristics of fire and the mechanisms of fire spread and the control of fire and the associated products of combustion;
- understands how fires originate, spread within and outside buildings/structures, and can be detected, controlled, and/or extinguished;
- is able to anticipate the behaviour of materials, structures, machines, apparatus, and processes as related to the protection of life, property and the environment from fire;
- has an understanding of the interactions and integration of fire safety systems and all other systems in buildings, industrial structures and similar facilities;
- is able to make use of all of the above and any other required knowledge to undertake the practice of fire engineering.

Course structure

This programme is presented as a two-year part-time programme, 30 ECTS per year; this means that the equivalent of a full academic year is taught over a period of two years (4 times 12 weeks). The courses take place on Thursday evening, Friday all day and exceptionally on Saturday morning. This allows professionals to participate.

The programme consists of ten general courses, one elective course and a master dissertation.

> Dissertation

The student applies his/her knowledge of Fire Safety Engineering.

Career perspectives

Fire safety consultants, fire prevention officers, fire brigade officers, building designers, building services engineers, architectural practitioners.

Contact

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Paul.Vandevelde@UGent.be
Ronny.Verhoeven@UGent.be
www.firw.ugent.be/onderwijs > postgraduatiepleiding

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Target Group:

- fire safety consultants, fire prevention officers, fire brigade officers,
- building designers, building services engineers, architectural practitioners.

Academic qualifications:

- Holders of an academic engineering or architect diploma
- Others on the basis of a study of individual skills.

For Flemish degrees:

- the exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

LANGUAGE

An applicant for an English study programme must give evidence of a good command of English by submitting one of the following:

- a TOEFL-TSE, maximum two years old, with a score of 510-550 (paper-based), or 80-100 (internet-based) or higher (the UGent TOEFL code is 2643);
- an official ‘test report form’ (TRF) from IBT, maximum two years old, with a minimum score of 6.0;
- a certificate awarded by the University Language Centre (ULC) confirming proficiency in English (Minimum CEF-level B2);
- Certificate Practical English 5, Upper Intermediate Academic, English, or Preparing for an English Test, awarded by the UCT;
- Cambridge ESPOL First Certificate in English (FCE).

Under no circumstances will students be enrolled, if they cannot demonstrate English proficiency by one of the above.

The following students are exempted from the language requirement:

- holders of a diploma of secondary education or higher education, awarded by an (recognised) institution in the Flemish Community;
- students who have successfully completed a minimum of 1 year (60 credits), be it secondary or higher education, where the medium of instruction was English (an official certificate must be submitted);
- students who have successfully completed a postdoctoral training programme at Ghent University, provided that the majority of the programme were course units in English.

PRACTICAL INFORMATION

APPLICATION DEADLINE

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

ENROLLING INSTITUTION

Ghent University

Send an e-mail to request admission, including a detailed CV, with explicit specification of diploma and possibly experience in the domain of FSE, to the chairman of the Electro-Mechanical Engineering Education Commission (opleidingscommissie Werktuigkunde-Elektrotechniek),


TUTION FEE

€ 8,500 for the full course, manuals not included

SCHOLARSHIPS

General information about organizations awarding scholarships:

www.highereducation.be > Studying in Flanders
www.studyinflanders.be > Funding opportunities

START/END OF THE PROGRAMME

Two-year part-time programme.

‘Start academic year’ last week of September.

STUDY PROGRAMME

GENERAL COURSES

- Active Fire Protection I. Detection and Suppression 3
- Active Fire Protection II. Smoke and Heat Control 3
- Fire Dynamics 6
- Fluid Mechanics Applications in Fire 3
- Interaction between People and Fire 3
- Risk Management 3
- Fire Safety Regulation 3
- Industrial Fire Protection and Explosions 3
- Passive Fire Protection 6
- Performance-Based Design 6

ELECTIVE COURSES

- Thermodynamics, Heat and Mass Transfer 6
- Steel and Concrete Structures 6

DISSERTATION

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Master of Biomedical Engineering
Organised jointly by Ghent University and Vrije Universiteit Brussel

Course content
The Master of Science in Engineering Science: Biomedical Engineering is an inter-university initiative of Ghent University and Vrije Universiteit Brussel. This programme aims to graduate academic engineers of an outstanding international level, integrating mathematics, physics, chemistry and life sciences with engineering techniques. The biomedical engineer is able to create knowledge from the molecular to the organ level. He or she develops new materials, devices, tools, systems and methods for the early diagnosis, prevention and treatment of pathology in order to improve and guarantee the health care and quality of life of the individual and the society. The student masters the necessary research skills to analyse and solve a given problem case independently. The biomedical engineer is capable of functioning in a multidisciplinary team (inflow of bachelor students with different educational backgrounds, teachers from diverse faculties and research areas, multidisciplinary projects where students solve multidisciplinary problem cases in group), and has the required communication skills (oral and written reporting). The biomedical engineer is aware of the ethical and socio-economic aspects of his profession and of our health care system, as well as of the responsibilities of the (biomedical) engineer in our society in general. In the fast-evolving area of biomedical engineering, the master program has also particular attention for an attitude of permanent learning.

Course structure
The study programme contains 120 credits, spread over 4 semesters of 12 weeks each. The specific biomedical part of the Master programme consists of 6 basic courses, accounting for a total of 30 credits and 42 credits specialised courses; the programme is further complemented with a masters thesis (24 credits) in the second master and optional courses (also 24 credits) in the second master. The programme, totaling 120 ECTS credits, is essentially the same as the regular programme, but 9 of the 24 ECTS credits for elective courses are taken by the compulsory course elements: 'Capita Selecta Mathematicae' and 'Wiskunde Modellen'.

Career perspectives
The biomedical engineer is employed in industry (medical device and software development and 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.

Programme mobility
The 6 basic courses are, in principle, offered in parallel at both universities in the first semester of the first master year, while the 9 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 optional courses and the master thesis, students are free to choose UGent, VUB or a (international) partner institute with which UGent or VUB has a bilateral agreement. Obviously, there also have the opportunity to follow part of their curriculum abroad within the Euromus framework. The inter-university college fills in the program of each individual student depending on their already acquired credits and competences. As educational tracks are assessed on an individual basis, it is important that students apply timely so that individual track records can be studied with care to ensure an optimal selection of courses.

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www.UGent.be/enbme
International Master of Science in Biomedical Engineering

Erasmus Mundus Master Programme jointly organised by University of Groningen (The Netherlands; co-ordinator), Aachen (Germany), Dublin (Ireland), Ghent and Brussels (Belgium) and Prague (Czech Republic).

Course content

The Erasmus Mundus Master course will prepare students from Europe and outside Europe for professions in Biomedical Engineering. The biomedical engineer is able to create knowledge from the molecular to the organ level. He or she develops new materials, devices, tools, systems and methods for the early diagnosis, prevention and treatment of pathology in order to improve and guarantee the health care and quality-of-life of the individual and the society.

Biomedical Engineering (BME) is a broad multidisciplinary area, involving many sub-specialisations, ranging from regenerative medicine to implant design and from PET-scan imaging to biosensors. For a single university it is difficult to have enough knowledge of all sub-specialisations in Biomedical Engineering to teach their students on an adequate level. Also the required European scope is difficult to gain when students stick to a single university. Therefore a consortium of six universities has joined their knowledge and specific expertise into a two-year European Master in Biomedical Engineering. At least two different universities have to be chosen, but every combination is possible. In this way the student has a maximum freedom to create a Master programme tailored to his/her interests and to follow the preferred specialisation.

Course structure

During the first two semesters (60 ECTS) each university gives course elements on basic biomedical engineering topics. These course elements define the basic level of competence of students. With these courses the student can follow every specialisation, offered in the third semester. Traineeships have to be followed in a hospital and/or industry.

In the third semester (30 ECTS) students move to one of the participating universities to follow lectures on a specific topic. Each university offers unique specialisations, based on key lines in research, so students get state-of-the-art knowledge, preparing them optimally for future developments in BME.

- **Radiation physics & Medical imaging**
  - Specialisation at one of the 6 participating universities. The fourth semester, a thesis project will be performed on the specialisation at one of the 6 participating universities.

  > **Master dissertation** An individual Master project will be performed by the student. This project could be a research assignment or a design assignment. The project will be finished with a written report and an oral presentation. During this Master project the student has to apply all acquired knowledge and skills:
  
  - to solve a problem by designing a device (in case of a design assignment);
  - to formulate answers to a scientific question by performing scientific research (in case of a research assignment).
  
  Assessment will be done by a report and a presentation.

  **Career perspectives**

  Students are trained to perform a research project and critically reflect on their work and are well prepared to function as a PhD-student at a university, perform research at a large industry R&D-department or to perform applied research (e.g. design of a second-generation dscuss prosthesis, minimally invasive heat support devices...).

  Thanks to the broad scope and European view these students are also well prepared for the task of product manager in an industry, leading an R&D-department of an industry, working as a project leader on applied research, medical physics engineer in a hospital. Their teamwork skills and knowledge of Biomedical Engineering make them suitable for hospital or clinical engineers who support and improve patient care by applying engineering and management skills to health care technology. They are involved in technical support of daily practice, training of health care professionals, introducing safety programmes, etc.

  The broad view on the various BME-fields, the capability in making judgements, integrating medical, cultural, social, ethical insights make them very well suited for functions in governmental/public health consultancy, in a wide spectrum of functions (from product design to safety regulations), notified bodies (screening new products for a CE-mark), health insurance, improving health care and controlling costs.

  **Contact**

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  g.j.verkerk@med.umcg.nl
  www.biomedicaltechnology.eu

  **UGent** Prof. Dr. Patrick Segers

  **ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS**

  The admission is granted to applicants who meet the following selection criteria: a Bachelor in Engineering or equivalent. Applicants in the final year of their Bachelor’s study may also apply. Certificate is to be delivered to the coordinating Institute in Groningen.

  Degree certificates, originating from other than the consortium universities, will be judged by the consortium secretariat that use lists of universities with a sufficient level of quality.

  To ensure quality of the programme the enrolment is limited to 20 students per consortium university. The consortium reserves at least 15 places for third-country students.

  **LANGUAGE** Official English proficiency. Language requirements include an IELTS test score of 6.5 or a TOEFL test score of 580 (paper-based), 237 (computer-based) or 80 (internet-based B1+). Since language competence is an important element, all universities of the consortium offer during this programme English language courses to the CEMACUBE students.

  **PRACTICAL INFORMATION**

  **APPLICATION DEADLINE**

  - for EU-students: January 15
  - for non-EU-students: December 1

  www.biomedicaltechnology.eu

  **ENROLLING INSTITUTION**

  University of Groningen (The Netherlands)

  **TUITION FEE**

  - for EU-students: € 4000 per year,
  - for non-EU-students: December 1

  These fees are irrespective of the universities in which they will actually be studied. The fee has to be paid to the secretariat of the consortium, located at the University of Groningen.

  **SCHOLARSHIPS**

  Erasmus Mundus scholarships:

  For non-EU students: covering all necessary costs of the student during his/her study period in Europe.

  For EU students: the Erasmus Mundus scholarship for EU students is considered as a “financial contribution”.

  **START OF THE PROGRAMME**

  Two year programme

  Start academic year: September

  **MAJORS**

  30

  Specialisation Computational Methods for Medical Applications (UGent/VUB)
  Technology and Design of Artificial Organs
  Computational Fluid Dynamics
  Biomedical Computer Science
  Fluid Structure Interaction
  Advanced Multi-physics Modeling for Medical Applications
  From Medical Image to Computational Model
  Master Thesis Preparation Project

  **Masters Dissertation**

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  **GENERAL COURSES**

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  Biotechnology
  Physics
  Mathematics
  Quantitative Cell Biology
  Modelling of Physiological Systems
  From Genome to Organism
  Biomedical Product Development
  Biomechanics
  Biomedical Signals and Images
  Medical Equipment
  Medical Physics
  Human and Environment, Safety and Regulations
  Multidisciplinary Biomedical Project

  **FOR INTERNATIONAL DEGREE STUDENTS**

  For non-EU students: December 1

  - EU-students € 4000 per year,
  - for non-EU-students: December 1

  **TUITION FEE**

  - for EU-students: € 4000 per year,
  - for non-EU-students: December 1

  These fees are irrespective of the universities in which they will actually be studied. The fee has to be paid to the secretariat of the consortium, located at the University of Groningen.

  Contact

  Erasmus Mundus scholarships:

  For non-EU students: covering all necessary costs of the student during his/her study period in Europe.

  For EU students: The Erasmus Mundus scholarship for EU students is considered as a “financial contribution”.

  **START OF THE PROGRAMME**

  Two year programme

  Start academic year: September
Course content

The Master of Textile Engineering is a two-year Master programme in the field of textile engineering. The programme was developed in the framework of and with full support of the Erasmus programme of the European Union. The Master of Textile Engineering offers an international and highly advanced programme in which the latest developments in the textile field are incorporated. The programme aims at stimulating the tide of the continuous lack of interest for textile education among young people. To this purpose, textile education is taught in a multidisciplinary way, and the strengths of the most renowned education specialists in the domain of textiles in Europe are brought together. The programme ensures that the demands of an industry continuously striving for technological innovation, creativity, quality and an excellent performing management are fulfilled.

Course structure

The programme of the Master of Textile Engineering is a full-time programme, lectured in English. All major European universities offering a textile degree participate in the programme. As such, the programme benefits from the strengths of the already existing textile programmes in Europe, and covers all modern areas related to textiles. The programme is organised at different locations: the students spend one semester (four to six months) at different universities of the participating universities (to be chosen by the student) under supervision of tutors possibly in co-operation with the industry. Students who are admitted spend one year and a half (three semesters) in three geographically spread regions in Europe where they are taught by a large number of professors of the participating universities. Each lecturer passes on his or her specific knowledge in a course module covering one or two weeks.

Next to the traditional lecturing methods, active methods are used such as case studies, presentation of papers, practical work in laboratories etc. To link theory with practice, company visits in the host country are regularly organised.

Career perspectives

The degree Master of Textile Engineering can lead to different careers involving textile knowledge in the broadest sense of the word. Students obtain a thorough understanding of all aspects related to textiles, and are hence well prepared for jobs requiring elaborate knowledge in textiles. The jobs imply technical functions, R&D functions and (general) management functions. Employment has an explicit international dimension thanks to the international and global character of the programme itself.

Contact

Ghent University – Department of Textiles
AU/TEX-secretariat
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+32 9 264 57 50
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http://textiles.UGent.be

Master of Textile Engineering

Organised jointly by different European universities

120 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: MASTER

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Students having a higher education degree (BSc, BEng, etc.) in textiles or related areas.
For Flemish degrees:
the exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

LANGUAGE
The applicant must prove to have an advanced knowledge of the English language by providing:
- an official certificate which confirms that the applicant has successfully completed at least one year of a study programme of which the method of instruction was English, either at an institute of Higher Education or a Secondary School;
- a recent TOEFL-TEST with a score of at least 550 (paper-based), 79 (internet-based) or 213 (computer-based) - the TOEFL code is 2643 - the test can be maximum two (2) years old;
- a certificate of the British Council (IELTS) with an overall band of 5,5;
- a certificate awarded by the University Language Centre (UCT) confirming proficiency in English (minimum CEFR level B2).

GENERAL COURSES
- Automation and Process Control
- Technical Textile Manufacturing Technology
- Instrumental Analysis
- High Technology Fibres
- Nanotechnology in the Textile Branch
- High Performance Fibres
- Biomaterials
- Innovative Methods for the Product Development Process for Garments and Technical Applications in the Ready-Made Industry
- Mechanics of Textile Materials
- Textile Composite Structures for Impact Protection
- Composites
- Applied Textile Process Engineering
- Intelligent Textiles
- Application of Technical Textiles
- Biotechnology
- Advanced and Specialised Textile Processing - Dyeing and Finishing
- Functional Finishing
- Medical, Transportation and Construction Textiles
- Recycling
- Management, Logistics and Distribution
- Advanced and Specialised Textile Processing - Mechanical
- Supply Chain Management
- Garment Technology
- Ecological and Environmental Aspects
- Quality and Environmental Management
- Industrial Information Systems

MASTER DISSERTATION

30

PRACTICAL INFORMATION

APPLICATION DEADLINE
General deadlines:
- for students who need a visa: 1st of March
- for students who do not need a visa: 1st of June

ENROLLING INSTITUTION
Ghent University

TUITION FEE
For full-time programme (60 ECTS credit/year):
- standard tuition fee: € 564,30
- reduced tuition fee for students from developing countries: € 80

For further information, please contact:
Paul.Kiekens@UGent.be

SCHOLARSHIPS
- offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis
- www.UGent.be > EN > education and study > study support > study related costs > scholarship
- other financing possibilities:
  - www.higereducation.be > Studying in Flanders
  - www.studyinflanders.be > Funding opportunities

START/END OF THE PROGRAMME
Two-year programme
Start academic year: last week of September

Master of Textile Engineering
Master of Nuclear Engineering
Organised jointly by Ghent University, Vrije Universiteit Brussel, Katholieke Universiteit Leuven, Université de Liège, Université Catholique de Louvain

Course content

Probably the most familiar nuclear engineering application is the production of electricity by means of nuclear power. Over 30% of electricity in the EU and roughly 55% in Belgium is provided by nuclear power. Moreover, at a small absolute but high relative scale, Belgium developed on its territory almost all kinds of nuclear activities: power plants, fuel production, radioelement production, engineering companies, accelerator design and fabrication, waste management, safety management, nuclear medicine, research and higher education.

The Master of Nuclear Engineering is a one-year programme organised by major Belgian universities in collaboration with SCK•CEN, the Belgian Nuclear Research Centre. The programme is taught in English. Its high modularity allows optimal time management for teachers and students. It facilitates individual participation in selected courses e.g. advanced courses in the context of continuous professional development, and it also facilitates foreign students’ participation in blocs of courses. The Belgian Master of Nuclear Engineering programme is embedded in the European ENEN association, a non-profit international organisation of universities and research centres for the preservation and further development of higher nuclear education and expertise. The Belgian Master of Nuclear Engineering programme, where appropriate, collaborates with the ANENT, the Asian Network for Education in Nuclear Technology.

Career perspectives

The objective of the Master of Nuclear Engineering is to offer present and future professionals and researchers a solid background in the different disciplines of nuclear engineering.

Contact

Ghent University – Faculty of Engineering
Department of Electrical Energy, systems and automation
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Belgium Nuclear Research Centre SCK•CEN
Boeretang 200, 2400 Mol
Gert Van den Eynde
gert.van.den.eynde@sckcen.be - T +32 (0)14 33 22 30
www.sckcen.be/bnen

Course structure

The programme consists of a set of general courses followed by some elective advanced courses, an internship, and a Master thesis work. The schedule of the programme will stimulate the students’ mobility in the preparation of their Master thesis work: internship in industry, in research centres or in universities within Belgium or Europe. The lectures are taught at the premises of the Belgian nuclear research centre SCK•CEN. The laboratory exercises make use of the nuclear facilities of SCK•CEN. Various technical visits are organised to research and industrial nuclear facilities.

MASTER DISSERTATION

Applicants must have obtained an academic degree after at least five years of study (Master of Science, Engineering or equivalent) in a discipline related to the content of the programme from a recognised University College or Institute.

For Flemish degrees:

the exhaustive list of degrees giving access to this master can be consulted in the online course catalogue.

Language

The applicant must prove to have an advanced knowledge of the English language by providing:

— an official certificate which confirms that the applicant has successfully completed at least one year of a study programme of which the medium of instruction was English, either at an Institute of Higher Education or a Secondary School;

— a recent TOEFL TEST with a score of at least 550 (paper-based), 79 (internet-based) or 213 (computer-based); the IELTS code is 2643; the test can be maximum two (2) years old;

— a certificate of the British Council (BTS) with an overall band of 5.5;

— a certificate awarded by the University Language Centre (UCL) confirming proficiency in English (minimum CEF-level B2).

Admission requirements for international degree students

Application deadline

General deadlines:

—with students who need a visa: 1st of March

—with students who do not need a visa: 1st of June

Enrolling institution

Ghent University

Tuition fee

For full-time programme (60 ECTS credits/1 year):

— standard tuition fee: € 564,30

— reduced tuition fee for students from developing countries: € 80 (this fee does not include expenses such as course books, excursions, travel expenses, etc.)

Scholarships

— offered by Ghent University for master studies: a limited number of scholarships are awarded on a competitive basis
www.UGent.be > EN > education and study > study support > study related costs > scholarship

— other financing possibilities
www.highereducation.be > Studying in Flanders
www.studyinflanders.be > Funding opportunities

Students can also receive a grant from BNN (www.sckcen.be/bnen)

Start/end of the programme

One-year programme.

Start academic year: last week of September.
Food security and sustainable development of rural areas require specialists with an integrated and multidimensional view on development problems. They should be able to elaborate, implement and evaluate strategies and policies, adapted to the specific needs and possibilities of developing countries. The Master of Science of Nutrition and Rural Development will form specialists in this field.

The programme provides a choice among three main subjects, to be specified at the first registration:
- Human Nutrition (HuNu);
- Rural Economics and Management (REM);
- Tropical Agriculture (Major Animal Production or Plant Production) (TA/PP).

The common part of the programme consists of modules providing basic knowledge, theoretical insights and methodological skills in the areas of production, transformation, preservation, marketing and consumption aspects of food production, nutrition and marketing. Further, students are trained in quantitative and qualitative research methods for the identification and assessment of nutrition and food security problems, the ranking of underlying factors and the elaboration and evaluation of appropriate interventions.

Furthermore, the programme develops written and oral communication skills and management capacities. The students are further trained in independent research and interdisciplinary teamwork. Finally, the students obtain a specific expertise, depending on their main subject.

**Course content**

- **Human Nutrition (HuNu):** The objective is to transfer specific and profound knowledge, insights and skills related to food security and nutrition problems and solutions at population level. Therefore, this subject focuses on subject areas such as food chemistry, food science, nutritional requirements, food and nutrition policy, nutrition surveillance, nutrition research, and food safety, all referring to the nutrition problems in developing countries.

- **Rural Economics and Management (REM):** The objective is to give students specific expertise on the socio-economic mechanisms causing failure and success in rural development, and to provide them with adequate tools for the planning and implementation of sustainable, integrated rural development strategies and interventions. To achieve this, students receive in-depth knowledge about agronomic, environmental, economic, social, financial, institutional and policy aspects of food production systems, the functioning of food markets and the impact of agricultural policies and rural institutions on the development of rural areas.

- **Tropical Agriculture (TA):** The objective is to deliver technical knowledge related to agriculture focusing on developing countries. The students can specialize in animal production or plant production by choosing the specific major. The major on Animal Production delivers in-depth knowledge on production biology, animal nutrition, pasture management, animal genetics .... The major on Plant Production focuses on themes like ethnobotany, crop protection, plant breeding, plant biotechnology .... The courses are applicable, and aim at presenting solutions for agricultural problems in developing countries in an interdisciplinary way.

**Course structure**

- **Students:**
  - choose the main subject they want to follow (including the major if applicable) the moment they apply for admission to UGent. In the first year of the MSc programme 30 ECTS credits are commonly taught. These courses give in-depth knowledge and knowhow in some more general courses related to nutrition and rural development, in order to achieve a common base level between all students of different backgrounds.

- **Second part of the first year courses:**
  - specific for each of the three main subjects. The aim is to achieve a more specific but broad common base for the students of each main subject.

- **Second year of the MSc programme:**
  - provides a more in-depth understanding of the specific problems and their solutions for the main subject they have chosen. The second year therefore consists of specific courses on each main subject, optional courses and Master Dissertation research. For the optional courses the student may choose among the specific courses of the other main subjects, or he/she can propose other courses offered in English at UGent as long as they enable the student to compile a tailor-made study curriculum enhancing his/her individual needs or interests.

- **Master dissertation:**
  - it is highly recommended that students return to their home or another developing country to do the data collection or field research. A local co-promoter (nominated by the staff of the programme) will assist them during that period.

**Career opportunities**

- **Overseas students:**
  - Research and teaching at universities, private or governmental;
  - Research in research institutes, private or governmental;
  - Development project collaborators;
  - Independent consultants;
  - Policy preparation;
  - Administration of rural projects;

- **European students:**
  - Overseas project collaborators for local and overseas governmental or local or international, non-governmental development organisations in the domains taught in the study programme;
  - Consultancy overseas after some years of experience;
  - Involved in Europe in some non-governmental organisations, active in the development cooperation field;
  - In administration as policy preparatory jobs;
  - In rural development research and project preparation.

**Entry conditions**

- **Applicants must have a Bachelor’s degree of minimum 3 years with good overall scores (at least a second class or equivalent), preferably highest from a university or recognized equivalent.**

- **Specific academic requirements:**
  - Applicants for the main subject Human Nutrition are expected to have a basic science training (demonstrable in the transcripts) in the following fields: (1) mathematics and physics and/or statistics, (2) biochemistry and/ or biology and/or physiology. Relevant research or working experience of minimum 2 years is recommended but not a prerequisite unless the former field of study (and/or degree obtained) was not directly relevant.

  - Applicants for the main subject Rural Economics and Management are expected to have a basic science training (demonstrable in the transcripts) in the following fields: (1) mathematics and/or statistics, (2) agronomy and/or biology and/or environmental sciences and (3) social sciences and/or rural development.

  - Applicants for the main subject Tropical Agriculture are expected to have a basic science training (demonstrable in the transcripts) in the following fields: (1) mathematics and/or statistics, (2) agronomy and/or biology and/or environmental sciences and (3) social sciences and/or rural development.

- **Minimum requirements:**
  - Math and physics (demonstrable in the transcripts) and/or statistics or a basic science training (demonstrable in the transcripts) in the following fields: (1) mathematics and/or statistics, (2) agronomy and/or biology and/or environmental sciences and (3) social sciences and/or rural development.

- **Proficiency in English:**
  - There are four possibilities to supply this proof:
    - **Degree, Master Degree** issued by an institution officially recognized by the Flemish Government, applicants must be able to prove their proficiency in English. This is an important criterion for admission. With the exception of those who have obtained a Diploma (Secondary Education, Academic Bachelor Degree, Master Degree) issued by an institution officially recognized by the Flemish Government, applicants must be able to prove their proficiency in English. There are four possibilities to supply this proof:
      - TOEFL certificate (the UGent TOEFL code is 2464) with a minimum total score of 550 on the paper based test, or a minimum total score of 79 on an internet based test (the test validity is max. 2 years);
      - IELTS with a minimum overall band score of 6 (the test validity is max. 2 years);
      - Proof of at least 1 year of comprehensive English-based instruction at a university, or an equivalent certificate;
      - Proof of a successful “Intermediate Academic English” test at the Ghent University Language Center. (For English, TOEFL/IELTS predictive tests are not acceptable.)

**Admission requirements for international degree students**

**PRACTICAL INFORMATION**

**Application deadline**

- For students applying for a VLIR-UOS scholarship: 1st of February
- For students who require a visa: 1st of May
- For students who do not require a visa: before September 1

**Enrolling institution**

Ghent University

**Tuition fee**

- For full-time programme (60 ECTS credits/1 year):
  - standard tuition fee: € 564.30
- reduced tuition fee for students from developing countries: € 80 (this fee does not include expenses such as course books, excursions, travel expenses, etc.)

**Scholarships**

- offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis. For full-time programme (60 ECTS credits/1 year):
  - standard tuition fee: € 564.30
- reduced tuition fee for students from developing countries: € 80 (this fee does not include expenses such as course books, excursions, travel expenses, etc.)

**Contact**

Ghent University

Master of Science of Nutrition and Rural Development

Mrs. E. A. M. Remaut-De Winter

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nurude@UGent.be

http://econsort.UGent.be

www.UGent.be > EN > education and study > study support > full-time or part-time > language: english > degree: master of science
The joint International MSc in Rural Development (IMRD) offers the opportunity to study European visions on Rural Development and Rural Economics in their diversity of approaches and applications and to make comparative analyses of EU and non-EU Agricultural and Rural Development strategies and agricultural policies. IMRD is amongst others supported by the Erasmus Mundus and EU-Atlantis programmes of the European Union. The objective is to train students from European and non-European countries, from developed, developing and transition countries to become specialists in Integrated Rural Development with focus on socio-economic and institutional aspects. This is done through a two-year master programme jointly organised by six European leading institutes in Agricultural Economics and Rural Development, in collaboration with several partners in the United States, China, India, South Africa and Ecuador.

Organising institutes

By forming a Network of Institutes of Excellence the International MSc in Rural Development builds on excellent competencies in the area of Rural Development, strong links with the professional world and extensive experience in joint training programmes for foreign students. The main EU partners of the joint IMRD are: Ghent University (Belgium), Agrocampus Ouest (France), Humboldt University of Berlin (Germany), Wageningen University (Netherlands), Slovak University of Agriculture in Nitra (Slovakia), University of Pisa (Italy). Apart from this, collaborations have been set up with an extended network of third country partners in the United States, China, Ecuador, South Africa and India for course work, case studies, internships and Master Thesis research projects. From next year on there will also be collaboration with a number of governmental and non-governmental organisations. For a detailed list and the specialty of the partners institutes can be found on the website.

Course content

IMRD brings together scholars from leading universities and research institutes worldwide to expose students to different existing paradigms, visions, approaches and practices for the development of rural areas. The objective is to train students from European and non-European countries, from developed, developing and transition countries to become specialists in Integrated Rural Development with focus on socio-economic and institutional aspects. This is done through a two-year master programme jointly organised by six European leading institutes in Agricultural Economics and Rural Development, in collaboration with several partners in the United States, China, India, South Africa and Ecuador.

The International MSc in Rural Development provides students with:

- A general formation in both technical and social sciences disciplines and advanced competence in at least two Rural Development related disciplines;
- Ability to dialogue with different actors of the socio-professional world as a consequence of their plan-disciplinary training;
- Critical reflection skills and the necessary communication skills for integrated team work for dealing with Rural Development challenges.

Course structure and mobility

The methodology consists of a combination of Basic and Specialised training in technical, economic and social sciences, divided over three study periods, a Case Study of one month in the summer period and an individual Master Thesis research project in the fourth study period. The programme includes a high extent of student and scholar mobility, making it possible to learn from specialists within and outside of Europe. Non-European students study mainly in the European Union, European students have opportunities to study within and outside the EU. Each two-year programme consists of one Basic Module (one semester), two Specialised Training Modules (two semesters), a Case Study or Internship in the summer period and a final semester dedicated to the Master Thesis research and writing. The Basic and Specialised Modules offer training in Agricultural Economics; Rural Economics and Management; Institutional and Resource Economics; Sustainable Territorial Approaches to Rural Development; Sustainable Agriculture and Rural Sociology. An absolute condition to obtain the Master degree is to fulfill the mobility requirements of the programme, i.e. to study in at least two of the Partner Institutes and to participate in the Case Study or Internship. The course program and mobility details can be consulted on the website www.IMRD.UGent.be.

The IMRD has a policy of equal distribution among partners offering courses in the same period. The IMRD is supported amongst others by the European Erasmus and EU-Atlantis programmes.

The Erasmus Mundus track provides several mobility trajectories within and outside the EU, and is offered to both European and non-European students. For this track scholarships under the EU Erasmus Mundus programmes are available. The Atlantis track allows comparative analysis of EU and US rural development and agricultural economic problems and policies and is offered to European and US students. For this track scholarships under the EU-Atlantis programmes are available.

Both tracks are also open to self sponsoring students or students with other scholarships.

Contact

Ghent University – IMRD – ATLANTIS secretariat
Faculty of Bioscience Engineering
Department of Agricultural Economics
Coupert Links 60 Y, 9000 Gent, Belgium
IMRDU@Gent.be – TRANSLANTIS@UGent.be
www.IMRD.UGent.be
www.TRANSLANTIS.UGent.be

Master of Science of Nutrition and Rural Development

International Master of Science in Rural Development

International Master Programme jointly offered by Ghent University and partners of European Erasmus Mundus programmes and EU-Atlantis programmes.

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<td>Animal Production Biology</td>
<td>5</td>
</tr>
<tr>
<td>Animal Nutrition</td>
<td>5</td>
</tr>
<tr>
<td>Meat and Meat Products</td>
<td>4</td>
</tr>
<tr>
<td>Tropical Feed Resources</td>
<td>3</td>
</tr>
<tr>
<td>Sustainable Animal Husbandry</td>
<td>6</td>
</tr>
<tr>
<td>Quantitative Veterinary Epidemiology and Risk Analysis</td>
<td>5</td>
</tr>
<tr>
<td>Milk and Dairy Technology</td>
<td>4</td>
</tr>
</tbody>
</table>

ELECTIVE COURSES

To be chosen from all specific courses taught in the other main subjects of the MSc. Nutrition and Rural Development or in other MSc. programmes taught in English at the Ghent University

| | 10 |

PREPARATORY COURSE

To be chosen from all specific courses taught in the other main subjects of the MSc. Nutrition and Rural Development or in other MSc. programmes taught in English at the Ghent University

| Courses for min. 10 and max. 60 ECTS credits, selected from the courses in the Bachelor programmes of the Faculty of Bioscience Engineering, depending on the pre-educational background of the student | 30 |

Food Marketing and Consumer Behaviour | 5 |
Rural Development and Poverty | 5 |
Farm Management and Micro-economic Theory | 5 |
Agricultural Economics of Developing Countries | 5 |
Agricultural Sociology and Extension | 5 |
Agricultural Policy | 5 |
Rural Project Management | 5 |
Advanced Marketing and Aphisibusiness Management | 5 |
Applied Rural Economic Research Methods | 5 |
Economics and Management of Natural Resources | 5 |
Tropical Animal Production | 4 |
Tropical Crop Production | 4 |
Rural Development and Poverty | 5 |
Ethnobotany and New Crop Development | 4 |
Molecular Techniques | 3 |
Plant Biotechnology | 3 |
Tropical Crop Protection | 5 |
Plant Breeding | 5 |
Post Harvest Handling, Processing and Preservation | 5 |
Tropical Forestry | 5 |
Properties and Management of Soils of the Tropics | 5 |
Applied Animal Genetics | 5 |
Animal Production Biology | 5 |
Animal Nutrition | 5 |
Meat and Meat Products | 4 |
Tropical Feed Resources | 3 |
Sustainable Animal Husbandry | 6 |
Quantitative Veterinary Epidemiology and Risk Analysis | 5 |
Milk and Dairy Technology | 4 |
INTERNATIONAL MASTER OF SCIENCE IN RURAL DEVELOPMENT

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Each application will be evaluated by a board of admission of the specific programme and has to be approved by the Faculty Council and by the Faculty’s office.

Entry conditions:
Applicants must have a Bachelor’s degree of minimum 3 years with good overall scores (at least a second class or equivalent, preferably higher) from a university or recognized equivalent.

Specific academic requirements:
Applicants are expected to have basic science training (demonstrable in the transcripts) in the following fields: (1) mathematics and/or statistics, (2) agronomy and/or biology and/or environmental sciences and (3) social sciences and/or rural development. Applicants who cannot present a combined training of these fields will be evaluated on their aptitude, based on experience and knowledge of these fields, as demonstrated by CV or other evidence.

LANGUAGE

The applicant must be proficient in the language of the course or training programme, i.e. English. Command of the English language is a very important criterion for admission. With the exception of those who have a diploma Secondary Education, Academic Bachelor Degree, Master Degree issued by an institution officially recognized by the Flemish Government, applicants must be able to prove their proficiency in English. There are four possibilities to supply this proof:

- TOEFL certificate (the UGent TOEFL code is 2944) with a minimum total score of 550 on the paper based test, or a minimum total score of 79 on an internet based test (the test validity is max. 2 years).

- IELTS with a minimum overall band score of 6 (the test validity is max. 2 years).

- A proof of at least 1 year of comprehensive English-based instruction at a university or recognized equivalent.

- A proof of a successful “Intermediate Academic English” test at the Ghent University Language Center.

APPLICATION DEADLINE

- For foreign students applying for scholarship: normally December 31, unless otherwise mentioned on the IMRD website.
- For other categories: see IMRD and ATLANTIS websites www.IMRD.UGent.be

ENROLLING INSTITUTION

Students enrol in Ghent University in the months preceding the start of the academic year. The tuition fee is paid to the IMRD account in Ghent University, which grants the student access to each of the partner institutes. Students register in each of the host institutes at arrival.

TUITION FEE

Min 2,000 and max 4,000 EUR per academic year. Further, students should foresee extra money for course material (ca. 500 EUR per year), the participation in the case study (1,000 EUR), accommodation and subsistence (ca. 600 EUR per month) and for travelling between the host institutes.

SCHOLARSHIPS

Students can apply for Erasmus Mundus and Atlantis scholarships, provided by the European Union. Information on alternative funding possibilities can be found on the IMRD and ATLANTIS websites.

START AND END OF THE PROGRAMME

Two year programme. Starts in Ghent University according to the academic calendar of UGent. Students are requested to be present approximately one week before the start of the courses.

PRACTICAL INFORMATION

APPLICATION DEADLINE

- For foreign students applying for scholarship: normally December 31, unless otherwise mentioned on the IMRD website.
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PROGRAMME

Two year programme. Starts in Ghent University according to the academic calendar of UGent. Students are requested to be present approximately one week before the start of the courses.

MASTER

ELECTIVE COURSES

- General Entrance Module (UGent)
  - Applied Rural Economic Research Methods
  - Rural Development and Poverty
  - Rural Project Management
  - Econometrics
  - Introduction to the European Vision on Agriculture and Rural Development
  - Applied Statistics
  - Tropical Food Production
  - Food Marketing and Consumer Behavior
  - Environmental Economics and Policy
  - Management of Natural Resources
  - General Agricultural Economics
  - Farm Management and Micro-economic Theory

- Advanced Module II: Rural Economics and Management (UGent)
  - Agricultural Economics of Developing Countries
  - Seminars in Rural Development
  - Agricultural and Rural Policy
  - Agricultural Sociology and Extension
  - Human Development Economics
  - Tropical Crop Production
  - Planning and Project Design
  - Rural Development Project
  - Advanced Marketing and Agricultural Management

- Advanced Module II (Partner Institutions)
  - Language Courses (Partner Institutions)
  - Additional Elective Courses (Partner or Other Institutions)

ATLANTIS LEARNING PATH

- General Entrance Module (UGent)
  - Course List: see Erasmus Mundus Learning Path: General Entrance Module

- Advanced Module II (UGent)
  - Course List: see Erasmus Mundus Learning Path: Advanced Module II

- Advanced Module II (Partner Institutions)
  - Course List: see Erasmus Mundus Learning Path: General Entrance Module

- Language Courses (Partner Institutions)
  - Additional Elective Courses (Partner or Other Institutions)

PROJECT

- Case study or internship ERASMUS MUNDUS-learning path
  - Case Study in Pisa/Nitra
  - Case Study in Arkansas/Florida
  - Case Study in Internship in other Partner Institute

- Case study or internship ATLANTIS-learning path
  - Case Study in Pisa/Nitra
  - Case Study in Internship in Arkansas/Florida
  - Case Study in Internship in other Partner Institute

- MASTER DISSERTATION
  - 30
Course content

The increasing consumption of aquatic products in European countries has drawn much attention to the development of a sustainable aquaculture and fishery sector. Declining fish catches and changing consumer requirements for a diversified range of safe, high-quality farmed aquatic products has inevitably led to regional and national specialisation in research as well as in education. Due to the diversity of aquaculture and fisheries, education in this sector calls for a multidisciplinary approach. Also in non-European countries (including ‘Third Countries’) the demand for aquatic animal products is rising, putting pressure on the natural resources. Hence in these countries the interest for aquaculture products is high (Far East, Africa) and is already the subject of a fast developing economic activity (Far East) or has the potential of becoming so (Africa). World statistics do indeed indicate that aquatic food is traded very intensively. It is estimated that 50% of the total aquatic production is crossing national borders. The MSC-Aquaculture calls upon the UGent and European aquaculture expertise to educate and train students and scholars from European and third countries in order to stimulate transfer of knowledge to and from Europe, nurturing in this way a sustainable development of aquaculture in these countries.

The Laboratory of Aquaculture & Artemia Reference Center of the Ghent University, Belgium has a long-standing worldwide reputation in the field of education and training in aquaculture. The objectives of the programme are:

- to deliver researchers able to perform and design research in various aquaculture fields;
- to deliver experts who can draw and implement strategies for future development in the aquaculture industry;
- to form key persons who can act as a nucleus in their local environment through dissemination and teaching their acquired knowledge;
- to deliver academically trained staff for the aquaculture industry.

Course structure

The Master of Science in Aquaculture is a two-year programme at an university level on the most important aspects of aquaculture and fisheries. The whole first semester of the second year students follow specialised courses on diseases, genetics and management at The Faculty of Bioscience Engineering has a wide range of bilateral agreements for both student and lecture exchange. Additionally, the MFAFish Consortium offers opportunities for integration of the UGent-Aquaculture curriculum with the curriculum of six other European universities teaching aquaculture at the MSc-level; leading to a higher variety of specialised courses and dissertation work.

The whole second semester of the second year students follow a farm training in marine or freshwater farms or research centre. Specialised courses such as Aquatic Farm Management Training, Fish Culture Techniques, Management in the Aquaculture Industry … compare the European situation with the situation in the student’s country of origin.

Career perspectives

Aquaculture is a diverse and dynamic industry. It depends on knowledge from a series of disparate disciplines (e.g., biology, engineering, marketing), and it is constantly evolving, drawing on new technologies and the outputs of a range of R&D activities. Consequently, there is a need of highly trained and skilled aquaculture specialists at European universities. These experts need to educate and train these aquaculture specialists at European universities, Europe also needs to educate and train students and scholars from third countries in order to stimulate transfer of knowledge to and from Europe.

This Master Programme is organised solely in English and receives a diverse international audience. Several guest speakers and practicing scientists and scholars from other European institutions (and abroad) contribute to the programme. The UGent-Aquaculture calls upon the UGent and European aquaculture expertise to educate and train students and scholars from European and third countries in order to stimulate transfer of knowledge to and from Europe, nurturing in this way a sustainable development of aquaculture in these countries.

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Career perspectives

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Master of Science of Aquaculture

MASTER DISSERTATION

> max. 5 credits from all programmes

UGent

> max. 15 credits from an elective course list

UGent

> max. 5 credits from all programmes

UGent

MAJOR OF SCIENCE OF AQUACULTURE

International Course Programme (ICP): Master Programme organised by Ghent University and the Flemish Interuniversity Council (VLIR-UOS)

Course content

The general objective of IUPFOOD is to provide a multidisciplinary and specialised professional training in areas of food technology, with emphasis on postharvest and food preservation engineering on the one hand and food science and technology on the other hand, to equip future personnel with the necessary technological and managerial knowledge, skills, and attitudes, which are required to successfully contribute to solving problems related to food security. The IUPFOOD programme particularly focuses on developing countries where food security (delivering enough nutritious, high-quality safe food) is a current and future major concern and key challenge. Today it is recognised that post-production considerations or activities such as postharvest handling, storage, processing, preservation, marketing, distribution, and utilizations need to form part of agricultural development programmes because there are many opportunities for food to be lost between harvest and consumption. These postharvest food losses represent a loss of valuable nutrients and money, especially in developing countries. Food should not only be produced, it should also be delivered to the ultimate consumer in an acceptable form if it is to fulfill its nutritional destiny. To bring foods to the consumer in an acceptable form, on the one hand processing technologies are used to convert edible raw materials into foods with decreased inherent stability; on the other hand preservation technologies are required to increase the stability and shelf life of foods. Based on these considerations, two technological dimensions of prime and crucial importance in food processing and preservation are the key objectives and programme options in IUPFOOD:

- The transformation (processing) of raw materials into products suited for human consumption.
- The role of postharvest and food preservation unit operations in delivering safe and nutritious foods to the end consumer.

These two concerns are directly translated in the focus points of dissertation topic are chosen after completing the first year.

For the optional courses the student may choose among the courses of the other specialisation and the additional optional courses offered. This enables the participants to compile a tailor-made study curriculum according to their individual needs and interests. The specialisation ‘Food Science and Technology’ (FST) is organised at UGent, while the specialisation ‘Postharvest and Food Preservation Engineering’ (PPE) is organised at K.U.Leuven.

Course structure

The programme builds on the integrated expertise in research and education of K.U.Leuven and UGent in the field of food technology. IUPFOOD offers two years of academic education, leading to a MSc degree ‘Master of Science of Food Technology’. In the first year of the MSc programme, in-depth knowledge in food science, engineering and food engineering is obtained, in order to achieve a common base level between students of different backgrounds. The first year is common to all participants. The first semester is organised at UGent while the second semester is organised at K.U.Leuven. The second year of the MSc programme provides a broad knowledge in food technology and in-depth understanding in either ‘Postharvest or Food Preservation Engineering’ (PPE) or ‘Food Science and Technology’ (FST), depending on the major chosen.

The second year of the programme therefore consists of specific courses on each major (PPE and FST), optional courses and dissertation research. The major, the optional courses and the dissertation topic are chosen after completing the first year.

Career perspectives

It is the objective of IUPFOOD to offer a programme that takes into account the specific needs and approaches in developing countries. The IUPFOOD programme prepares students for different tasks, particularly in a professional teaching and research environment. IUPFOOD alumni are mainly active in the following sectors:

- Academic institutes (as teaching and/or research staff), research institutes (as research staff), non-governmental organisations (in different capacities), governmental institutes (e.g. in research programmes, quality surveillance programmes or national nutritional programmes) and private industry (in particular quality control related jobs).

A number of IUPFOOD alumni complete further PhD studies in an early phase of their career.

Contact

Ghent University
Department of Food Safety and Food Quality
IUPFOOD secretariat
Coupure Links 653.1, B-9000 Gent
T +32 (0)9 264 61 65 - Fax +32 (0)9 264 62 10
iupfood.technology@UGent.be
www.iupfood.be; www.icp-itp.UGent.be
Master of Science of Food Technology

120 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: MASTER OF SCIENCE

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Each application will be evaluated by a board of admission of the specific programme and has to be approved by the Faculty Council and by the Rector’s office.

Entry conditions:
- Applicants must have a Bachelor’s degree of minimum 3 years with good overall scores (at least a second class or equivalent, preferably higher) from a university or recognized equivalent.
- Specific academic requirements:
  - Applicants are expected to have basic science training (Bachelor of Science degree, demonstrable in the transcripts) in at least 3 out of 4 of the following fields: (1) mathematics, statistics and physics, (2) chemistry and biochemistry, (3) biology and microbiology and (4) engineering and food engineering, with an end result of minimum second class upper or equivalent.

LANGUAGE

The applicant must be proficient in the language of the course or training programme, i.e. English. Command of the English language is a very important criterion for admission. With the exception of those who have a Secondary Education, Academic Bachelor Degree, Master Degree issued by an institution officially recognized by the Flemish Government, applicants must be able to prove proficiency in English. There are four possibilities to supply this proof:

- TOEFL certificate (the UGent TOEFL code is 2643) with:
  - minimum total score of 550 on the paper based test, or
  - minimum total score of 79 on an internet based test (the test validity is max. 2 years);
- IELTS with a minimum overall band score of 6 (the test validity is max. 2 years);
- Proof of at least 1 year of comprehensive English based instruction at a university or recognized equivalent;
- Proof of a successful “Intermediate Academic English” test at the Ghent University Language Centre (Remark: TOEFL/IELTS predictive tests are not acceptable).

PRACTICAL INFORMATION

APPLICATION DEADLINE
- For students applying for a VUB-UOS scholarship: 1st of February
- For students who require a visa: 1st of May
- For students who do not require a visa before September 1

www.zp-ftp.UGent.be

ENROLLING INSTITUTION
Alternating: Ghent University and K.U. Leuven

TUITION FEE
For full-time programme (60 ECTS credits/1 year):
- standard tuition fee: € 564.30
- reduced tuition fee for students from developing countries: € 80 (this fee does not include expenses such as course books, excursions, travel expenses, etc.)

SCHOLARSHIPS
- offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis
  www.UGent.be > EN > education and study > study support > study-related costs > scholarship
- other financing possibilities: www.highereducation.be > Studying in Flanders www.studyrinflanders.be > Funding opportunities

STARTEND OF THE PROGRAMME
Two year programme.
- Start: first Monday of the last week of September
- End: last Friday of the second week of September

MASTER

GENERAL COURSES
- 60

UGENT
- Applied Statistics
- Food Chemistry and Analysis
- Food Marketing and Consumer Behaviour
- Food Microbiology and Analysis
- Food Processing

K.U.LEUVEN
- Biochemistry and Physiology of Perishable Crops
- Chemical, Mechanical and Microbiological Properties of Food Moisture
- Nutrition and Dietetics
- Thermal Processing of Foods
- Transport Phenomena and Engineering Kinetics

MAJORS
- FOOD SCIENCE AND TECHNOLOGY (UGENT)
  - Statistical Topics in Food Technology
  - Food Colligates
  - Functional Foods
  - One course from the following list:
    - Milk and Dairy Technology
    - Technology of Fishery Products
    - Plant Based Food Products and Ingredients
    - Meat and Meat Products
  - Application of the UGent TOEFL code is 2643

FOOD SCIENCE AND TECHNOLOGY (K.U.LEUVEN)
- Low Temperature Processing of Foods
- Mathematical Planning and Advanced Statistics
- Design and Management of Storage and Distribution Structures

POSTHARVEST AND FOOD PRESERVATION ENGINEERING (K.U.LEUVEN)
- Postharvest Pest Management and Disease Control
- Food Packaging and Transportation

ELECTIVE COURSES
- 12
  - Courses to be chosen from an elective course list

MASTER DISSERTATION
- 30
Master of Science of Environmental Sanitation

Course content

The general objective of the study programme is the education of environmental specialists with ample knowledge of:

- the concepts and issues associated with environmental pollution;
- the detection and quantification of environmental pollution;
- the possible impact of environmental pollutants on the ecosystems and biota, together with the current techniques for risk assessment;
- the available technologies for prevention and remediation of environmental pollution and the way they are designed and applied in practice.

The ICP ‘Environmental Sanitation’ has been set up with the explicit aim to offer training to an international audience, and is therefore entirely taught in English. Although the study programme can be attended by all students interested in environmental problems in an international context, the programme has always focused on specific situations, causes and issues in developing countries, thus contributing to an improvement of the quality of life in these countries. This international dimension is an important asset, as the frequent contacts and common activities enhance the students’ social skills.

The vast majority of students are non-European. They mainly originate from Asia, Africa and, to a lesser extent, from Latin America. Because of its international reputation, also students from OECD countries, Central and Eastern Europe occasionally register for the programme.

Course structure

The study programme is structured around the following topics:

- basic study of non-polluted environments;
- sources and causes of environmental pollution;
- methodologies for detection and analysis of environmental pollution;
- environmental toxicology and risk assessment, both in the eco-toxicological and human toxicological field;
- prevention and sanitation of environmental pollution;
- clean technology;
- treatment of wastes.

During the second year, the student has to choose a major (‘soil’, ‘water’ or ‘air’) to which the master dissertation research (30 ECTS credits) has to be linked. Each major consist of 3 courses corresponding to 11 ECTS credits.

- Master dissertation

The dissertation subject is related to one of the ‘majors’ of the study programme and preferably deals with an environmental issue at the country of origin. Therefore students can make their own proposal. This is possible due to the fact that in the framework of the current scholarship programme, students with a VLIR-UOS scholarship get the chance to return to their home countries during the summer holidays. During that period they have the opportunity to collect data and possibly also samples (e.g. dust on filters, water or soil samples; reducing the sample volumes by concentrating sample extracts is also possible) in the framework of their dissertation research. For those students who do not have the possibility to make their own proposal, each year potential dissertation promoters put forward dissertation subjects, which are announced by the CES in April. This allows the student to contact the professor in charge of the dissertation subject of his/her interest.

Career perspectives

Graduates of the ICP ‘Environmental Sanitation’ are active in diverse sectors and assume highly varying professional duties. This can vary from appointments in ministries and governmental services, NGOs, teaching assignments at universities or scientific research in domains that deal with technologies for prevention and sanitation of environmental pollution.

In view of this situation, the study programme pays particular attention to the acquisition of knowledge and skills that enables graduates with a Master degree to fulfil their role as leading scientists able to cope with all kinds of situations. Therefore, the ICP ‘Environmental Sanitation’ puts strong emphasis on reflection and analytical abilities, intellectual creativity, communication skills and the development of a research approach and problem-solving capacity.

Students must be able to apply the acquired knowledge and understanding in complex problems or situations with the necessary guidance and steering, taking into consideration the ethical, financial and social aspects.

Contact

Ghent University
Centre for Environmental Sanitation
Jozef Plateaustraat 22, 8-9000 Gent
www.cms.UGent.be
www.icp-tp.UGent.be

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ADMISION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Each application will be evaluated by a board of admission of the specific programme and has to be approved by the Faculty Council and by the Rector’s office.

Entry conditions:

Applicants must have a bachelor’s degree of minimum 3 years with good overall scores (at least a second class or equivalent, preferably higher) from a university or recognized equivalent.

Specific academic requirements:

Applicants must have at least a bachelor’s degree in exact or applied sciences. Adequate knowledge of mathematics, physics and chemistry at university level is an absolute requirement. Previous knowledge of biology, microbiology and/or soil science is an advantage but not a requisite.

LANGUAGE

The applicant must be proficient in the language of the course or training programme, i.e. English. Command of the English language is a very important criterion for admission. With the exception of those who have a diploma (Secondary Education, Academic Bachelor Degree, Master Degree) issued by an institution officially recognized by the Flemish Government, applicants must be able to prove their proficiency in English.

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- TOEFL certificate (the UGent TOEFL code is 2643) with:
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  - a minimum total score of 79 on an internet based test (the test validity is max. 2 years);
- IELTS with a minimum overall band score of 6 (the test validity is max. 2 years);
- TS with a minimum overall band score of 6 (the test validity is max. 2 years);
- a successful “Intermediate Academic English” test at the Ghent University Language Centre.

(Supplies of an “Intermediate Academic English” test are no longer acceptable.)

ENTRY CONDITIONS

Applicants must certify at least one of the following:

- a very good command of English at university level is an absolute requirement. Previous knowledge of biology, microbiology and/or soil science is an advantage but not a requisite.
- an official diploma in exact or applied sciences.
- an official diploma in exact or applied sciences, issued by a university or recognized equivalent.
- an official diploma in exact or applied sciences and by the Flemish Government, applicants must be able to prove their proficiency in English.

Degree, Master Degree) issued by an institution officially recognized

Entry conditions:

Applicants must have a bachelor’s degree of minimum 3 years with good overall scores (at least a second class or equivalent, preferably higher) from a university or recognized equivalent.

Specific academic requirements:

Applicants must have at least a bachelor’s degree in exact or applied sciences. Adequate knowledge of mathematics, physics and chemistry at university level is an absolute requirement. Previous knowledge of biology, microbiology and/or soil science is an advantage but not a requisite.

LANGUAGE

The applicant must be proficient in the language of the course or training programme, i.e. English. Command of the English language is a very important criterion for admission. With the exception of those who have a diploma (Secondary Education, Academic Bachelor Degree, Master Degree) issued by an institution officially recognized by the Flemish Government, applicants must be able to prove their proficiency in English.

There are four possibilities to supply this proof:

- TOEFL certificate (the UGent TOEFL code is 2643) with:
  - a minimum total score of 550 on the paper based test, or
  - a minimum total score of 79 on an internet based test (the test validity is max. 2 years);
- IELTS with a minimum overall band score of 6 (the test validity is max. 2 years);
- TS with a minimum overall band score of 6 (the test validity is max. 2 years);
- a successful “Intermediate Academic English” test at the Ghent University Language Centre.

(Supplies of an “Intermediate Academic English” test are no longer acceptable.)

CONTACT

Ghent University
Centre for Environmental Sanitation
Jozef Plateaustraat 22, 8-9000 Gent
www.cms.UGent.be
www.icp-tp.UGent.be

PRACTICAL INFORMATION

APPLICATION DEADLINE

- For students applying for a VLIR-UOS scholarship: 1st of February
- For students who require a visa: 1st of May
- For students who do not require a visa: before September 1

ENROLLING INSTITUTION

Ghent University

TUITION FEE

For full-time programme (60 ECTS credits/1 year):

- standard tuition fee: € 564.30
- reduced tuition fee for students from developing countries: € 80 (this fee does not include expenses such as course books, excursions, travel expenses, etc.)

SCHOLARSHIPS

- offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis

www.UGent.be > EN > education and study > study report > study related costs > scholarship
- other financing possibilities: www.highereducation.be > Studying in Flanders, www.studyinflanders.be > Funding opportunities

START/END OF THE PROGRAMME

Two-year programme.

Start: first Monday of the last week of September
End: last Friday of the second week of September

www.highereducation.be > Studying in Flanders, wwwstudyinflanders.be > Funding opportunities

www.cms.UGent.be > education and study > study support > financial information

www.icp-tp.UGent.be >...
Master of Science of Environmental Sanitation

**M A S T E R**

**GENERAL COURSES**
- Biosolids and Solid Waste Treatment: 6
- Environmental Ecology: 3
- Ecological Risk Assessment: 4
- Human Toxicology related to the Environment: 3
- Applied Methods in Environmental Toxicology: 3
- Analysis and Abatement of Air and Water Pollution: 7
- Biological Monitoring of Aquatic Systems: 4
- Environmental Microbiology: 4
- Environmental Chemistry: 7
- Environmental Soil Science: 7
- Biotechnological Processes of Environmental Sanitation: 5
- Clean Technology: 3
- Environmental Impact Assessment: Integrated Project: 5

**MAJORS**
- AIR
  - Advanced/Waste Gas Treatment: 3
  - Urban and Indoor Air Pollution: 5
  - Chemistry of the Global Atmosphere: 3
- SOIL
  - Soil Remediation: 3
  - Soil Degradation: 5
  - Contaminant Transport in Soils: 3
- WATER
  - Natural Systems for Water/Water Treatment: 3
  - Quality of Groundwater Resources: 5
  - Water Quality Management: 3

**ELECTIVE COURSES**
- 12 Credits
- **MODULE MANAGEMENT**
  - Management of Natural Resources: 3
  - Environmental Economics and Policy: 3
  - Environmental Legislation: 3
- **MODULE HUMAN HEALTH**
  - Environmental Virology and Paratoxiology: 3
  - Environmental Noise: 3
  - Basic Concepts in Public Health and Epidemiology: 3
- **MODULE ADVANCED TECHNOLOGIES**
  - Microbial Re-use Technology: 3
  - Membrane Processes in Environmental Technology: 3
- **MODULE RELATED COURSES**
  - Environmental Impact of Global Change: 3
  - Life Cycle Assessment: 3
  - Environmental Ethics: 3
  - Plant/Water Relations in the Soil-Plant Atmosphere Continuum: 3
  - Soil/Water Management: 3
  - Land Information Systems: 3
  - Aquaculture Environmental Impact: 3
  - Environmental Impact Assessment: 3
- **ENGLISH MASTER COURSES UGENT**
- **MASTER DISSERTATION**
  - 30 credits

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**PREPARATORY COURSE**
Courses for min. 10 and max. 60 ECTS credits, selected from the courses in the Bachelor Programmes of the Faculty of Bioscience Engineering, depending on the pre-educational background of the student.

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Master of Science of Physical Land Resources

**MAIN SUBJECTS: SOIL SCIENCE • LAND RESOURCES ENGINEERING**

International Master Programme (ICP) Master Programme organized jointly by Ghent University (Faculty of Sciences/Faculty of Bioscience Engineering), Vrije Universiteit Brussel (VUB) (Faculty of Engineering) and the Flemish Interuniversity Council (VLIR-UOS).

**Course content**

The overall objective of the programme in Physical Land Resources is that graduates gain expertise to critically reflect on and give answers to questions like:

- What is soil?
- From what did the soil originate and how will it further develop under different conditions?
- Which factors and properties determine the suitability of soil for either agricultural or non-agricultural purposes and how can this be assessed?
- How can soil be improved for specific uses?
- How can degradation and desertification problems be tackled?
- How do we manage the soil and land capital and how do we protect it?
- What is the impact of the factor soil on the dynamics of natural ecosystems and how can this knowledge be used for nature conservation?
- What does soil learn us about environmental problems?
- How can we improve soil-water management for sustainable crop production?
- How can we improve the efficient use of our scarce water resources?

A country’s physical land resources are a fundamental pillar of support for human life and welfare. Worldwide, population pressures and severe degradation, pollution and desertification problems are threatening these - for several countries relatively scarce - natural resources, and cause competition between agricultural or industrial purposes, urban planning and nature conservation. To guarantee their proper use and management for a nation’s physical land resources, and a solid insight in factors and measures that may alter their actual state and value are warranted and call for a high level of professionalism and scientific knowledge of the properties and characteristics of physical land resources, and a solid insight in factors and measures that may alter their actual state and value are warranted and call for a high standard scientific and practical education.

**Course structure**

The first year provides a fundamental basis in physical land resources, with a main subject in either Soil Science or Land Resources Engineering. The second year offers specialised courses in one of the two main subjects. The students have to prepare a dissertation.

The course curriculum of the first year, and of the main subject in Soil Science of the second year, is organised at Ghent University, whereas all courses of the main subject in Land Resources Engineering of the second year are organised at the Vrije Universiteit Brussel. Students in Land Resources Engineering have to reside in Brussels during the second year.

**Career perspectives**

The graduates have the competence to be active in both basic and applied research at universities, research institutes and other government institutions, and to apply their knowledge and skills as required by the overall development policy of their country. In particular:

- graduates have the basics to conduct field work (soil survey, soil profile description, soil classification), use existing cartographic and remote sensing data, and interpret analysed data. This is the basis for regional planning, land evaluation, land degradation risk assessment, soil and water management, etc. This regards all staff from government institutions and universities involved in the inventory of natural resources (pedologic and geologic survey and cartography).
- graduates are trained to characterise soil physically, chemically and mineralogically with advanced techniques, to translate this into soil quality and to assess the influence by and on natural and anthropogenic factors. This is important for staff active in laboratories for research in soil science, geomorphology and surface geology, attached to nature reserves and research institutes, and for academics.
- Graduates from Belgium and Europe are trained to look at their profession from a situation that is different from their home situation, and are well placed for work in development co-operation projects. The obtained skills are of course also relevant for jobs related to physical land resources within a European context. Implementation of the EU Thematic Strategy on Soil Protection by the member countries demands for well-trained personnel in physical land resources.
Master of Science of Physical Land Resources

120 ECTS CREDITS • FULL-TIME OR PART-TIME • LANGUAGE: ENGLISH • DEGREE: MASTER OF SCIENCE

ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Each application will be evaluated by a board of admission of the specific programme and has to be approved by the Faculty Council and by the Rector’s office.

Entry conditions:
Applicants must have a Bachelor’s degree of minimum 3 years with good overall scores (at least a second class or equivalent, preferably higher) from a university or recognized equivalent.

Specific academic requirements:
Applicants are expected to have a basic science training in (1) mathematics or statistics and (2) chemistry or biochemistry, and an overall academic education background in a relevant discipline like (either) agriculture, biology, forestry, environment, land and water management, physical geography, geology or civil engineering.

Relevant research or working experience of about 2 years is recommended but not a prerequisite, unless the former field of study (degree obtained) was not directly relevant for or pertaining to soil science or land resources engineering.

LANGUAGE

The applicant must be proficient in the language of the course or training programme, i.e. English. Command of the English language is a very important criterion for admission. With the exception of those who have a diploma (Secondary Education, Academic Bachelor Degree, Master Degree) issued by an Institution officially recognized by the Flemish Government, applicants must be able to prove their proficiency in English. There are four possibilities to supply this proof:

- TOEFL certificate (the UGent TOEFL code is 2643) with:
  - a minimum total score of 550 on the paper based test, or
  - a minimum total score of 79 on internet based test (the test validity is max. 2 years);
- IELTS with a minimum overall band score of 6 (the test validity is max. 2 years);
- Proof of at least 1 year of comprehensive English based instruction at a university or recognized equivalent;
- Proof of a successful “Intermediate Academic English” test at the Ghent University Language Center (Remark: TOEFL/IELTS predictive tests are not acceptable).

APPLICATION DEADLINE

- For students applying for a VUB UOS scholarship: 1st of February
- For students who require a visa: 1st of May
- For students who do not require a visa: before September 1

www.icp-itp.UGent.be

ENROLLING INSTITUTION

Ghent University and Vrije Universiteit Brussel (VUB)

TUITION FEE

For full-time programme (60 ECTS credits/1 year):
- standard tuition fee: € 564,30
- reduced tuition fee for students from developing countries: € 80 (this fee does not include expenses such as course books, excursions, travel expenses, etc.)

SCHOLARSHIPS

- offered by Ghent University for master studies: a limited number of scholarships awarded on a competitive basis

www.UGent.be > EN > education and study > study support > scholarships

- other financing possibilities:

www.highereducation.be > Studying in Flanders
www.studyinflanders.be > Funding opportunities

START/END OF THE PROGRAMME

Two year programme.
Start: first Monday of the last week of September
End: last Friday of the second week of September

PRACTICAL INFORMATION

MASTER

GENERAL COURSES

Pedology 45
Applied Geophysics 5
Meteorology and Climatology 5
Soil Chemistry 5
Soil Physics 5
Soil Mineralogy 5
Land Information Systems 5
Soil Prospection and Classification 5
Seminar in Physical Land Resources 5

MAIN SUBJECT COURSES

LAND RESOURCES ENGINEERING

Geomechanics 5
Environmental Geology 5
Applied Geophysics 5
Geological Aspects of Geotechnical Engineering 5
Applied Geochemistry 5
Applied Geomorphology 5
Earth Observation Techniques 5
Soil Mechanics and Soil Stabilisation Techniques 5
Hydrogeology 5

SOIL SCIENCE

> General Courses

Geoprospecting 5
Plant-Water Relations in the Soil-Plant-atmosphere Continuum 5
Soil Genesis 5
Soil Fertility 5
Soil Degradation 5
Land Evaluation 5
Soil Water Management 5

> Elective Courses

(I choose from the following list):
Irrigation and Drainage 5
Remote Sensing 5
Quality of Groundwater Resources 5
Soil Erosion Processes and Control 5
Properties and Management of Soils of the Tropics 5
UGent Course 5

MASTER DISSERTATION

30

PREPARATORY COURSE

Min. 3 and max. 60 ECTS credits, to be composed of courses from the Bachelor in Bioscience Engineering, option Land and Forest Management, or the Bachelor in Geology, depending on the student’s previous degree.
Course Content

The general objective of the study programme is to train specialists in water technology who have knowledge of and insight in integrated water management and policy, trends and developments in the water sector, worldwide water problems and new techniques for water treatment and water purification. The study enables graduates to adequately apply water technology for the analysis and solution of water problems.

Course structure

The study programme consists of 11 modules (or course units) divided over 3 parts offering the student a certain freedom of choice.

The introduction (part 1) contains introductory notions and concepts. These compulsory modules are organised during the first three weeks of the academic year.

The in-depth specialisation takes place in part 2 consisting of 7 modules. The student composes a self-selected study package until a total of 18 credits is reached.

The composition of this part 2 is illustrated by means of three possible tracks related to three groups of water users, but in principle, it is determined by the student’s individual choice.

Possible tracks:

- Specialisation for industrial water users: M3, M6
- Specialisation for nautical water users: M4, M7, M8
- Specialisation for ecological water users: M3, M4, M5

The integration (part 3) is made up of an integrated course and a dissertation including a individual research project, which allows for a further deepening of the subject.

Career perspectives

Integrated Water Management is called the challenge for the 21st century. Worldwide an increase can be seen in the demand for integrated competences, usable in water-related R&D. Research institutions, global businesses, specialised companies, consultancies and government institutions are feeling the need for highly qualified professionals in water technology, with the right skills for integrated water management.

Contact

Ghent University
Centre for Environmental Sanitation
Jozef Plateaustraat 22, B-9000 Gent
info.cmw@ugent.be
www.watertechnology.be
International Master of Science in Environmental Technology and Engineering

Erasmus Mundus Master Programme jointly organised by Ghent University (Gent, Belgium), UNESCO-IHE Institute for Water Education (Delft, The Netherlands) and Institute of Chemical Technology Prague (Prague, Czech Republic).

The master program is also supported by several associated partners from all over the world.

Course Content

Growing awareness of the human impact on the environment has convinced most governments of the need to prevent air, water and soil pollution. Increasingly, remediation of contaminated sites is becoming a priority target. Consequently, there is a strong and ever increasing demand for specialists trained in pollution prevention and remediation.

This Joint Erasmus Mundus programme will address these needs by educating a new generation of environmental scientist and engineers that can provide adequate and state-of-the-art environmental technology and engineering solutions to tackle complex, multidisciplinary environmental issues.

Successful graduates will have acquired a comprehensive knowledge of:

– the nature and severity of environmental pollution;
– the way polluted water, waste, gas, soils and sediments can be treated;
– the way ecosystems and the atmosphere can be protected from pollution;
– the way to prevent environmental pollution through resource management and application of re-use technologies.

They will be able to develop, design and apply technologies for the prevention and remediation of environmental pollution. In addition, they should be capable of:

– searching scientific information;
– conducting scientific research in the field of environmental technology and engineering;
– reporting their findings by means of scientific reports and papers;
– communicating effectively in English and transferring knowledge to both the scientific and non-scientific world through oral presentations and media communications.

Course structure

The overall programme structure is outlined below

– General competence and background courses (sem 1) 20 ECTS
– Advanced course (sem 2/3) 5 ECTS
– Elective project (sem 2) 5 ECTS
– Specialisation courses and placement (sem 2 and 3) 46/50 ECTS
– Summer school (between year 1 and 2) 5 ECTS
– Master thesis (sem 4) 30 ECTS
– Transferable skills courses (incl. elective language courses) (sem 1, 2, 3) 5/9 ECTS

– Master dissertation

The master dissertation is a requirement for every candidate to obtain a master degree. The master dissertation is an original piece of research work. It aims to develop and strengthen the research capacity skills of the students. The student selects a topic and is given guidance by a promoter or supervisor. The master dissertation consists of a literature review part, a theoretical reflection and an original analysis of the topic.

Programme mobility

Over the study programme, students move between the partner institutions. Students start at UNESCO-IHE in Delft (The Netherlands). The second semester, they move at Institute of Chemical Technology in Prague (Czech Republic). The third semester, they study at Ghent University (Gent, Belgium) (Figure). The fourth semester is reserved for thesis research, which is conducted at one of the partner institutes or with an associate partner.

Career perspectives

Trained graduates will be fully prepared to fulfil executive functions in international institutions (government, universities, non-governmental organisations, etc.) and private companies that deal with either application and development of pollution prevention, remediation and engineering techniques or regulatory decision making.

Contact

www.imete.UGent.be
IMETE Coordination
Prof. Dr. ir. F. M. G. Tack
Faculty of Bioscience Engineering
Coupure Links 653
B-9000 Gent, Belgium
International Master of Science in Environmental Technology and Engineering

120 ECTS CREDITS • FULL-TIME • LANGUAGE: ENGLISH • DEGREE: JOINT MASTER

<table>
<thead>
<tr>
<th>ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS</th>
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<tbody>
<tr>
<td>Candidates must have at least a Bachelor degree (minimum 180 ECTS credits) in pure or applied sciences (e.g. chemistry, biology, geology, civil or agricultural engineering, environmental or agricultural sciences, etc.) or an equivalent level from a recognised university or Engineering College, or several years of related professional experience. Sufficient academic knowledge of mathematics, physics and chemistry is an absolute requirement.</td>
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<tr>
<th>LANGUAGE</th>
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<tr>
<td>Sufficient knowledge of English must be demonstrated by one of the following means:</td>
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<tr>
<td>– knowledge level B1 of the CEF (Common European Framework);</td>
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<tr>
<td>– TOEFL test (the test validity is max. 2 years): min. 550 (paper-based) or min. 79 (internet-based);</td>
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<td>– IELTS with a minimum overall band score of 6 (the test validity is max. 2 years);</td>
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<tr>
<td>– proof of at least one year of comprehensive English-based instruction at a university or recognized equivalent.</td>
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**Under no circumstances will students be enrolled, if they cannot demonstrate English proficiency by one of the above.**

The following students are exempted from the language requirement:

- holders of a diploma of secondary education or higher education, awarded by an (recognized) institution in the Flemish Community;
- students who have successfully completed a minimum of 1 year (60 credits), be it secondary or higher education, where the medium of instruction was English (an official certificate must be submitted);
- students who have successfully completed a predoctoral training programme at Ghent University, provided that the majority of the programme were course units in English.

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<th>PRACTICAL INFORMATION</th>
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<td><strong>APPLICATION DEADLINE</strong></td>
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<td>– for non-EU-students: January 21</td>
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<tr>
<td>– for EU-students: September 1</td>
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<tr>
<td>– for application for an Erasmus Mundus grant (EU and non-EU-students): January 21</td>
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<tr>
<td><a href="http://www.imete.UGent.be/">www.imete.UGent.be/</a></td>
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<tr>
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<tr>
<td>Non-EU-students: € 8,000/year</td>
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<td>EU-students: € 4,000/year</td>
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<tr>
<th>START/END OF THE PROGRAMME</th>
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<tr>
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<td>Start academic year: September.</td>
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<tr>
<td>GENERAL COMPETENCE AND BACKGROUND COURSES</td>
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<td>ADVANCED COURSE</td>
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<td>ELECTIVE PROJECT</td>
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<td>SPECIALISATION COURSES AND PLACEMENT</td>
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<td>SUMMER SCHOOL</td>
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<td>TRANSFERABLE SKILLS COURSES (INCL. ELECTIVE LANGUAGE COURSES)</td>
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<td>MASTER DISSERTATION</td>
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