



2012-2013

# International Master Programmes

universiteit  
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KNOWLEDGE IN ACTION



### **Message from the rector**

Looking for an excellent master programme taught in a dynamic environment? Interested in gaining profound knowledge and developing professional skills? Dreaming of a successful career after your studies? Then you are at the right address at Hasselt University! Highly motivated students from all over the world choose Hasselt University to benefit from our excellent education.

There are numerous reasons why Hasselt University attracts many international students. One of them is our excellent staff, which consists of leading authorities in both research and education. Another pro is our innovative approach to university education. Our programmes are accredited by the NVAO (the Accreditation Organization of the Netherlands and Flanders) and multiple facets of these programmes are assessed with the highest rank: excellent. So they set the standard for an international level. Last but not least the city of Hasselt is a nice place to soak up student life and prepare for your professional career.

This brochure provides you with basic information about our university and our programmes. We are looking forward to welcome you.

**Prof. dr. Luc De Schepper**  
Rector of Hasselt University

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# Hasselt University: knowledge in action

Hasselt University is an innovative university which has a pronounced international orientation. Founded in 1971, it is the youngest university in Belgium. Hasselt University stands for excellence in education, top research in spearhead fields and active engagement in innovation and entrepreneurship. The overall objective is to combine academic excellence with economic and social relevance.

The faculties of Business Economics, Law, Medicine and Sciences offer attractive undergraduate, graduate and PhD programmes at a high academic level. The education is research-led and students participate in the university's research programmes from an early stage on. Moreover, knowledge and skills are frequently related to concrete real life situations. The programmes are supported by a range of innovative and effective teaching and learning methods. They also stimulate students to develop their full potential. Hasselt University aims at self-assured and independent professionals, equipped with the necessary skills for analysing and solving problems, working in multidisciplinary teams, chairing discussions, presenting ideas ...

The research policy of Hasselt University is directed at top research in a number of spearhead fields including materials for (bio)electronics and nanotechnology, biostatistics, cleantech, environmental sciences, ICT, life sciences, open innovation and small businesses, transportation sciences and traffic safety. In those multidisciplinary domains, the research institutes of Hasselt University combine fundamental and applied research, including contract research for industry and organizations. The Technology Transfer Office is responsible for valorisation of research results and takes the lead in starting up several spin-off companies per year. Hasselt University assumes an active role in stimulating innovative economic activities in the region, including the co-ordination of regional thematic company clusters in domains such as life sciences, renewable energy and cleantech.

Hasselt University has an extensive international network and develops joint programmes with universities in Belgium and the Netherlands. Our international students and researchers come from all over the world.



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# Hasselt: dynamic student town



Hasselt University is situated in the heart of Europe, within a stone's throw from cities such as Brussels, Liège (French speaking part of Belgium), Aachen (Germany) and Maastricht (the Netherlands), while Paris and London are within a couple of hundred kilometres.

Hasselt University has two campuses: a green campus outside the city of Hasselt and a campus downtown. Hasselt has a population of almost 75 000 and is the administrative and commercial centre of the province.

Hasselt is a dynamic student town where young people feel comfortable. It organizes all kinds of theatrical performances, music and pop festivals, either in the open air or in the well-known Ethias Arena. In addition, there is a large movie theatre near the campus. It is noteworthy that all public transport from the campus to the city centre is completely free of charge for students, staff members and guests of Hasselt University. To get a genuine taste of Hasselt you can visit the many cosy restaurants and cafés dotted all over the town. You can visit the Jenever (Gin) Museum, St. Quentin's Cathedral, the prestigious Fashion Museum, the Municipal Museum and the Virga Jesse Basilica, the beautiful Japanese Garden and the many green oases adorning the town. Hasselt is not only the capital of taste but also of the true 'bon vivant'!

# Education



## BACHELORS AND MASTERS

Hasselt University is located in the region of Flanders, which is the Dutch-speaking part of Belgium. Our bachelor programmes are therefore mainly taught in Dutch. However, master programmes can be taught both in English and in Dutch. In addition a number of courses has been set up in English for our exchange students. A complete bachelor programme consists of 180 ECTS credit points, or three years of full-time study. A complete master programme consists of 60 or 120 ECTS credit points, which comes down to one or two years respectively of full-time study. At present, Hasselt University offers study programmes including PhD programmes in four faculties.

### Faculty of Sciences

Hasselt University organizes up-to-date bachelor programmes in Biology, Chemistry, Physics and Mathematics. Moreover it offers a Bachelor and Master of Information Sciences. Within the framework of the co-operation with Maastricht University, a Master of Artificial Intelligence and a Master of Operations Research are offered (in English). Furthermore, we offer an English Master of Statistics with specializations in Biostatistics, in Bioinformatics, and in Epidemiology & Public Health Methodology.

### Faculty of Medicine

Hasselt University organizes a Bachelor of Medicine, and a Bachelor and Master of Biomedical Sciences. This master has specializations in Clinical Molecular Sciences, in Bioelectronics and Nanotechnology, and in Environmental Health Sciences. Moreover, courses are offered in English.

### Faculty of Business Economics

Hasselt University offers bachelor and master programmes in Applied Economic Sciences, Business Engineering and Business Engineering in Management Information Systems. Moreover, it organizes the Master of Management (in English); students can specialize in Management Information Systems or International Marketing Strategy. Hasselt University also organizes a teacher training course in the field of Applied Economic Sciences. In the field of Transportation Sciences, we offer both a bachelor and a master. Traffic Safety and Mobility Management are the specializations of this master, which is unique in Belgium. It can be followed on campus or by distance learning and offers courses in English.

### Faculty of Law

Hasselt University organizes a Bachelor and Master of Laws. Our emphasis on international and public law is unique. The education programme focuses on international and European law, judicial protection and mediation, and provides a platform for the comparison of European and various national legal systems. Thanks to assignment- and problem-based learning our graduates develop skills that are particularly useful for their career. Our partners in education are universities with well known traditions: Maastricht University and The Catholic University of Leuven (K.U.Leuven).

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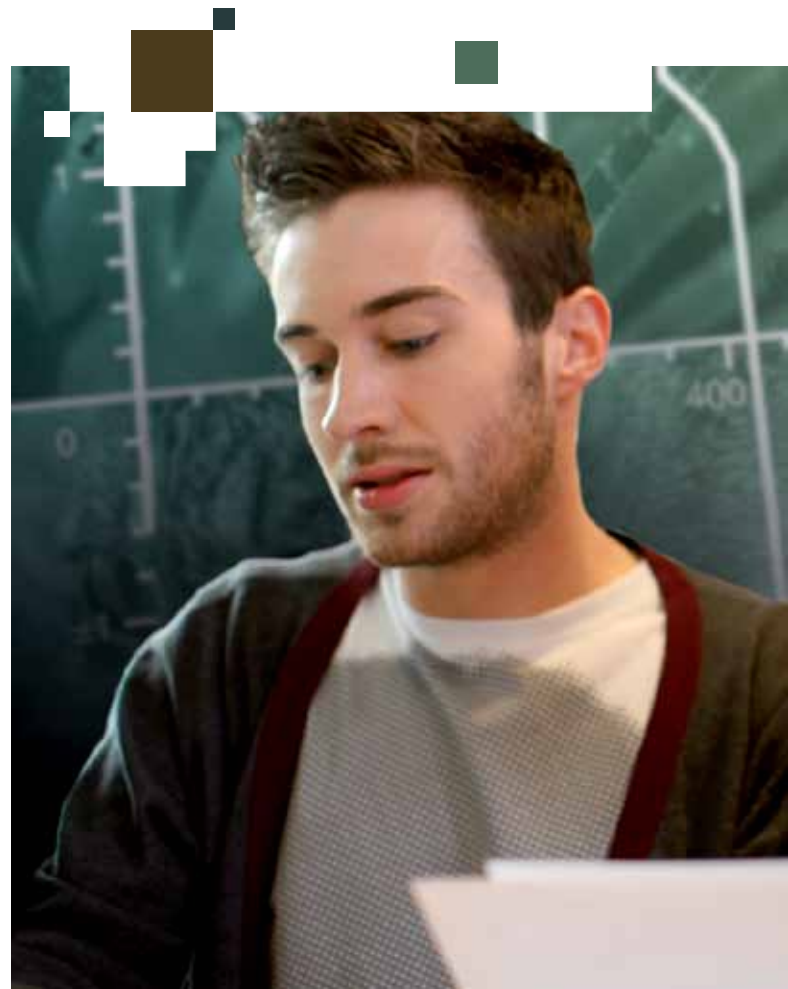
# International master programmes

## MASTER OF STATISTICS (FACULTY OF SCIENCES)

The need for well-trained biostatisticians, bioinformaticians, and epidemiological and public-health scientists is ever increasing, enhanced by the scientific revolution in molecular biology and genetics, and its impact on health and the environment.

The Master of Statistics of Hasselt University, with specializations: Biostatistics, Bioinformatics and Epidemiology & Public Health Methodology, keeps abreast with such evolutions. The master programme combines a solid study of principles of applied and biostatistics with up-to-date training in topics such as clinical trials, public health, longitudinal data, survival analysis, genetics, survey methodology... The specialization in Bioinformatics allows keeping an even closer pace with the more specific professional needs and skills required by the developments of the novel experimental techniques in molecular biology and genetics.

The Master of Statistics of Hasselt University acquired accreditation from the prestigious Royal Statistical Society.



# Biostatistics

## Fast facts

### Programme

Master of Statistics

### Specialization

Biostatistics

Biostatistics ICP

### Duration

2 year full-time

### Start date

October

### Learning method

Lectures, compulsory reading, computer practice, problem-based learning, group and individual projects

### Assessment method

Written exams, projects, essays, presentations

### Options:

- Individual (reduced) programmes are possible. You are free to combine courses from different specializations to create your own profile. Requests for an individualized programme and an application for exemptions should be formally submitted to the Examination Board, along with a clear motivation and justified by the requested documents.
- Scholarship for the ICP Biostatistics of the Flemish Interuniversity council (VLIR-UOS). Candidates must not be older than 35 year. Their fully completed application form and requested documents should be returned to the VLIR administration in Brussels no later than the 1st of February. Candidates will be notified by VLIR-UOS after the meeting of the Selection Committee (May-June). More detailed information on requirements and application forms are available on: [www.uhasselt.be/master-of-statistics](http://www.uhasselt.be/master-of-statistics).

“This programme ensures a promising and successful career”.

Samuel Iddi, Ghana

## Further information

**Website:** [www.uhasselt.be/master-of-statistics](http://www.uhasselt.be/master-of-statistics)

**Programme coordinator:** prof. dr. Geert Molenberghs

**E-mail:** [geert.molenberghs@uhasselt.be](mailto:geert.molenberghs@uhasselt.be)

**Programme coordinator ICP:** prof. dr. Paul Janssen

**E-mail:** [martine.machiels@uhasselt.be](mailto:martine.machiels@uhasselt.be)

## Strengths of the Master of Statistics: Biostatistics

In the specialization Biostatistics/Biostatistics IPC sound training in modern statistical methodology, necessary for the design and analysis of biomedical and epidemiological studies, is provided. Core biostatistics courses are Longitudinal Data Analysis, Survival Analysis, and Clinical Trials. Furthermore the specialization in Biostatistics is strongly research oriented.

The programme of students from developing countries, with a scholarship sponsored by the University Development Cooperation Section of the Flemish Interuniversity Council (VLIR-UOS), is adapted to their specific needs and interests in the specialization Biostatistics ICP.

## Biostatistics: the right choice for you?

As well as the standard admission requirements (see page 26) you should:

- Hold an academic bachelor degree obtained from a Belgian university, in mathematics, physics, computer sciences, chemistry, biology, life sciences, (bio, business, civil)- engineering to be directly admitted.
- Hold a bachelor degree in mathematics, physics, computer sciences, chemistry, biology, life sciences, (bio, business, civil)-engineering, medicine, sociology, psychology, artificial intelligence, biotechnology from other universities, with a basic but sufficiently strong background in mathematics and statistics. The Examination Board of the programme will evaluate each application individually concerning the applicants academic record. Depending on the diploma obtained previously, students may have to enroll for a preparatory programme.

## What are your career prospects?

Over the years graduates have found positions in:

- biomedical research institutes
- pharmaceutical industry
- government
- healthcare
- academia (PhD)
- ...

Course outline

Check the summary on page 10.



# Bioinformatics

## Fast facts

### Programme

Master of Statistics

### Specialization

Bioinformatics

### Duration

2 year full-time

### Start date

October

### Learning method

Lectures, compulsory reading, laboratories, problem-based learning, group and individual projects

### Assessment method

Written exams, projects, essays, presentations, skills tests

### Option

Individual (reduced) programmes are possible. You are free to combine courses from different specializations to create your own profile. Requests for an individualized programme and an application for exemptions should be formally submitted to the Examination Board, along with a clear motivation and justified by the requested documents.

## Further information

**Website:** [www.uhasselt.be/master-of-statistics](http://www.uhasselt.be/master-of-statistics)

**Programme coordinator:** prof. dr. Tomasz Burzykowski

**E-mail:** [tomasz.burzykowski@uhasselt.be](mailto:tomasz.burzykowski@uhasselt.be)

“Specializing in bioinformatics at Hasselt Univeristy has changed my professional life. The content of our courses was always rich, we combined individual and group work and the experience we got through practice was huge”.

Tatsiana Khamiakova, Belarus

## Strengths of the Master of Statistics: Bioinformatics

The rapid evolution in scientific research in genomics and proteomics continuously requires new knowledge and skills. Besides a working knowledge of molecular biology, there is the need for a specialized knowledge of, and applied skills in database management, computer programming, statistical techniques and knowledge discovery & integration.

The Master of Statistics: Bioinformatics prepares graduates in such a way that they:

- Are able to design and analyse experiments aimed at obtaining genomic and proteomic data.
- Possess the necessary knowledge and skills to develop, understand and create bioinformatics software tools and databases.
- Become self-assured, independent and assertive professionals for whom analysing an issue, structuring information, working in international and multidisciplinary teams, conducting and chairing discussions and presenting ideas have become second nature.

## Bioinformatics: the right choice for you?

As well as the standard admission requirements (see page 26) you should:

- Hold an academic bachelor degree obtained from a Belgian university, in mathematics, physics, computer sciences, chemistry, biology, life sciences, (bio, business, civil)-engineering to be directly admitted.
- Hold a bachelor degree in mathematics, physics, computer sciences, chemistry, biology, life sciences, (bio, business, civil)-engineering, medicine, sociology, psychology, artificial intelligence, biotechnology from other universities, with a basic but sufficiently strong background in mathematics/statistics and/or computer science. The Examination Board of the programme will evaluate each application individually concerning the applicants academic record. Depending on the diploma obtained previously, students may have to enroll for a preparatory programme.

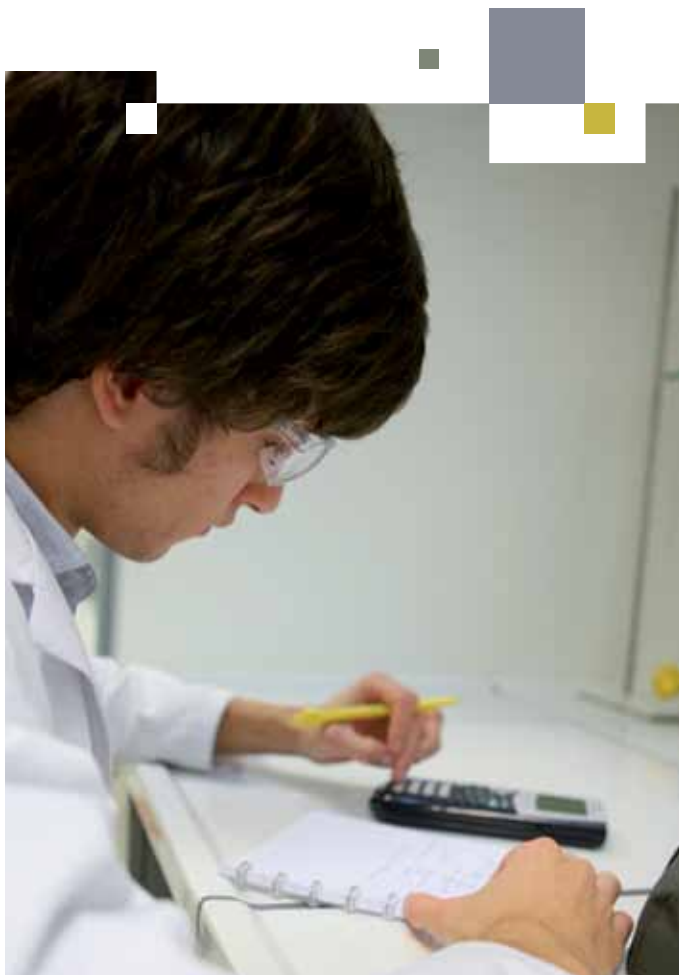
## What are your career prospects?

Over the years graduates have found positions in:

- biomedical research institutes
- biotech & pharma industry
- academia (PhD)
- ...

## Course outline

Check the summary on page 10.



# Epidemiology and Public Health Methodology

## Fast facts

### Programme

Master of Statistics

### Specialization

Epidemiology and Public Health Methodology

### Duration

2 year full-time

### Start date

October

### Learning method

Lectures, compulsory reading, laboratories, problem-based learning, group and individual projects

### Assessment method

Written exams, projects, essays, presentations, skills tests

### Option

Individual (reduced) programmes are possible. You are free to combine courses from different specializations to create your own profile. Requests for an individualized programme and an application for exemptions should be formally submitted to the Examination Board, along with a clear motivation and justified by the requested documents.

## Further information

**Website:** [www.uhasselt.be/master-of-statistics](http://www.uhasselt.be/master-of-statistics)

**Programme coordinator:** prof. dr. Marc Aerts

**E-mail:** [marc.aerts@uhasselt.be](mailto:marc.aerts@uhasselt.be)

## Strengths of the Master of Statistics:

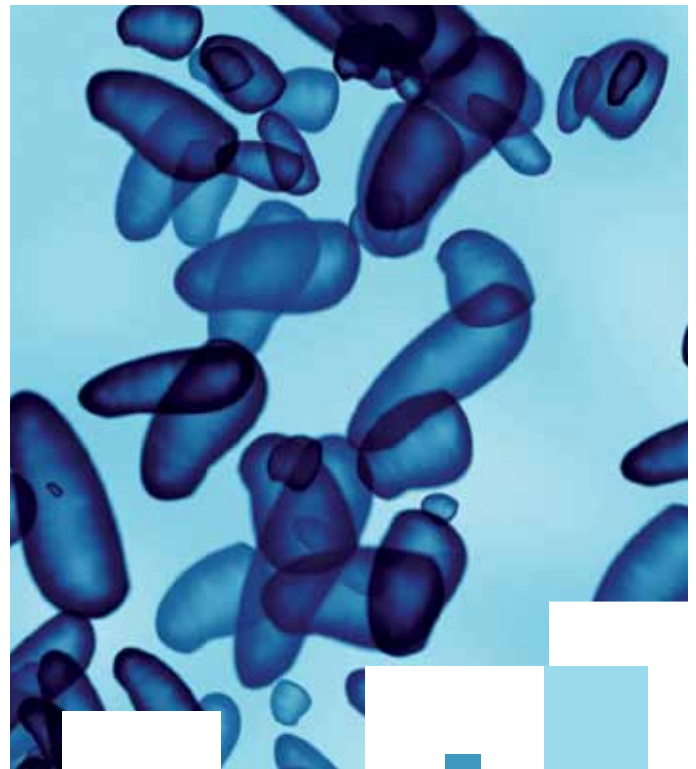
### Epidemiology and Public Health Methodology

The specialization Epidemiology & Public Health Methodology offers a professionally-oriented programme with emphasis on epidemiology, modeling of infectious diseases and microbial risk assessment.

### Epidemiology and Public Health Methodology: the right choice for you?

As well as the standard admission requirements (see page 26) you should:

- Hold an academic bachelor degree obtained from a Belgian university, in mathematics, physics, computer sciences, chemistry, biology, life sciences, (bio, business, civil)-engineering to be directly admitted.
- Hold a bachelor degree in mathematics, physics, computer sciences, chemistry, biology, life sciences, (bio, business, civil)-engineering, medicine, sociology, psychology, artificial intelligence, biotechnology from other universities, with a basic but sufficiently strong background in mathematics and statistics. The Examination Board of the programme will evaluate each application individually concerning the applicants academic record. Depending on the diploma obtained previously, students may have to enroll for a preparatory programme.



“This specialization at Hasselt University enables one to have the confidence in dealing with real life statistical problems and gives you the opportunity to be taught by some of the best professors of statistics in the world”.

Abel Tilahun, Ethiopia

### What are your career prospects?

Over the years graduates have found positions in:

- public health institutes
- food safety agencies
- epidemiology departments
- government
- academia (PhD)
- ...

### Course outline

Check the summary on page 10.

<b>COURSES: 1st year master</b>					
	<b>Bioinforma- tics</b>	<b>Biostatistics</b>	<b>Biostat ICP</b>	<b>Epidemio- logy</b>	<b>Credits</b>
Regression	X	X	X	X	15
Analysis of variance	X	X	X	X	
Concepts of probability and statistics	X	X	X	X	
Project : Learning from data	X	X	X	X	7
Correlated and multivariate data	X	X	X	X	12
Discrete data analysis	X	X	X	X	
Nonparametric methods	X	X	X	X	
Project: Discovering associations	X	X	X	X	7
Molecular biology	X				16
Computer programming	X				
Database management	X				
Project: Basic bioinformatics	X				
Disease mapping		X			5
Topics in biometry			X		5
Survey methods				X	5
Data management in statistics		X	X	X	3/14
Concepts of Bayesian inference	X	X	X	X	
Optional subject		X	X	X	
<b>Total ECTS credit points</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>	
<b>COURSES: 2nd year</b>					
	<b>Bioinforma- tics</b>	<b>Biostatistics</b>	<b>Biostat ICP</b>	<b>Epidemio- logy</b>	<b>Credits</b>
Medical biology	X	X	X	X	3
Project: Multivariate data analysis	X (!)	X (!)	X (!)	X (!)	3
Individual thesis project	X (!)	X (!)	X (!)	X (!)	14
Genetic epidemiology	X	X			3
Computer intensive methods	X				31
Data mining for bioinformatics	X				
Advanced programming	X (!)				
Analysis of protein expression	X (!)				
Computer intensive methods for bioinformatics	X				
Computational biology	X				
Project: Analysis of gene expression	X				
Bayesian data analysis		X	X	X	10
Applied data modeling		X	X	X	
Project: Epidemiology		X (!)	X (!)	X (!)	
Principles of statistical inference		X	X		24
Foundations of linear models		X	X		
Longitudinal data analysis		X	X		
Survival data analysis		X	X		
Clinical trials		X	X		
Project: Longitudinal data analysis		X (!)	X (!)		
Project: Advanced modeling techniques		X (!)	X (!)		
Advanced topics in clinical trials		X			3
Data mining				X	27
Environmental epidemiology				X	
Modelling infectious diseases				X	
Disease mapping				X	
Topics in epidemiology				X	
Microbial risk assessment				X	
Project: Incomplete data				X (!)	
Optional subject	X		X		6/3
<b>Total ECTS credit points</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>	

# MASTER OF MANAGEMENT (FACULTY OF BUSINESS ECONOMICS)

The Master of Management is an international one-year programme (in English). The programme is tailored for bachelor and master graduates who aim to widen their international management scope as well as to deepen their knowledge and capabilities in management information systems or industrial marketing strategy. This integrated management programme is not only intended for students of (business) economics, but also for university graduates in non-economic subject areas, such as engineers, lawyers, psychologists ...

Students can choose between the specialization in Management Information Systems (MIS) and the major in International Marketing Strategy (IMS).

## **Master of Management: specialization Management Information Systems (MIS)**

The specialization MIS focuses on the organization and management of information systems in business functions and at corporate level. Graduates are prepared to take functions of business analysts and consultants. Earlier, business computing was mostly used for relatively simple operations, such as tracking sales or payroll data. Over time, these applications became more complex. They began to store increasing amounts of information while also interlinking with previously separate information systems. As more and more data were stored and linked one started to analyse this information into further detail, creating entire management reports from the raw, stored data. The term 'MIS' describes these kinds of applications, which are developed to provide managers with information about sales, inventories, and other data that help in managing the company. Today, more than ever before, the firm is a complex information system.

## **Master of Management: major International Marketing Strategy (IMS)**

The major IMS focuses on business-to-business marketing strategy in an international context. Graduates gain insight in timely industrial marketing strategies. Complementary to a more classic consumer marketing perspective, this major digs deep into marketing strategies, processes and the relationships between organizations – whether they produce high-tech products/service or not. While consumer marketing is highly visible and well-developed in our Western hemisphere (e.g. due to explicit exposure and branding), marketing between organizations remains a rather uncultivated arena. More even than in consumer marketing, this field requires an explicit international perspective.



“The university and course facilitators strive to bring practical experience into the academic environment through both discussion topics and lectures and they encourage the sharing of professional experiences among their students.”

Sofian A. Kassaymeh, Jordan

### Fast facts

#### Programme

Master of Management

#### Specialization/major

Management Information Systems  
International Marketing Strategy

#### Duration

1 year full-time (+ preparatory programme for students with a non-economic degree)

#### Start date

September

#### Learning method

A combination of lectures, case studies & practical applications in the field of management.

#### Assessment method

Master's dissertation, papers and exams

### Strengths of the Master of Management

The Master of Management programme aims to develop the following competences:

- to identify, define and solve economic and managerial problems in an expert manner.
- to apply theoretical knowledge and problem-solving methods & techniques in a flexible and creative way.
- to evaluate the available information in order to arrive at well-grounded solutions.
- to assess the feasibility of solutions in a multicultural context.
- to demonstrate communication skills which are appropriate to implement decisions.
- to make active contributions to the development of team projects.

Furthermore students have to acquire the learning competences and learning attitudes that enable them to take part in autonomous and lifelong learning. They can critically evaluate their own learning processes in the cognitive, affective, social, moral and ethical fields.

### Master of Management: the right choice for you?

The Master of Management programme explicitly welcomes different groups: graduates from both economic and non-economic subject areas can enroll. Those from non-economic fields first have

to pass a preparatory programme that is tailored to their specific background. The Master of Management programme should enable students to assume high-potential middle management functions, especially in the context of dynamic international markets. Participating students come from different countries around the world. Therefore, all courses are taught in English.

To accommodate students combining study and a professional career, the programme can be followed in a part-time way. In the latter case, the individually tailored programme, including a proposal of the chronological order in which subjects will be taken, has to be formally submitted to the Examination Board.

All applicants should hold at least a university diploma or a diploma of higher education equivalent to a (academic) bachelor degree in economic or applied economic sciences, commercial and business sciences or equivalents of these degrees. For other bachelor degrees, the Examination Board will consider the applications individually. Participants who hold a master degree (in the domain of business economics) can be exempted for some courses. Participants from non-economic fields will have to pass a preparatory programme that is tailored to their specific background.

### What are your career prospects?

This programme enables students to function optimally within organizations and to assume management functions. Competences such as project team work, creative business problem solving and management reporting will be obtained. Alumni occupy prominent functions in companies all around the world. They testify to the dynamism of our high level training. Graduates with the specialization Management Information Systems (MIS) become ICT consultants or ICT project managers. Graduates with the specialization International Marketing Strategy (IMS) take up marketing management functions in high-tech multinational firms.

### Further information

**Website:** [www.uhasselt.be/master-of-management](http://www.uhasselt.be/master-of-management)

**Programme coordinator:** Mrs Rachel Moreau

**E-mail:** [rachel.moreau@uhasselt.be](mailto:rachel.moreau@uhasselt.be)



COURSES	ECTS Credits
<b>CORE COURSES</b>	<b>12</b>
International financial management and financial derivatives	6
Innovation and value chain management	6
<b>SPECIALIZATION COURSES</b>	
<b>Management Information Systems (MIS)</b>	<b>48</b>
Business process modeling	6
E-business strategy	6
ERP systems	6
Strategic information management	6
ICT-management	6
Master's dissertation	18
<b>International Marketing Strategy (IMS)</b>	<b>48</b>
International marketing	6
Business strategy	6
Strategic marketing	6
Market research methodology	6
Industrial marketing	6
Master's dissertation	18

[www.uhasselt.be/studyguide/](http://www.uhasselt.be/studyguide/)

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# MASTER IN APPLIED ECONOMIC SCIENCES: BUSINESS ENGINEERING IN MANAGEMENT INFORMATION SYSTEMS (FACULTY OF BUSINESS ECONOMICS)

This two year master programme focuses on the development, the implementation and management of information and information systems in business functions and at corporate level. In the curriculum, aspects of applied economics, business administration, business engineering and informatics are integrated. This master programme is an international programme and offers courses in English; international students can share cultural experiences and international business aspects.

Besides that, students get the opportunity to encounter an abroad experience for one year in Italy. Students who are interested in business analysis and optimization have the chance to do the first master year in Pisa and to specialize in this field (in the second year courses will be followed at Hasselt University).

## Fast facts

### Programme

Master in Applied Economic Sciences:  
Business Engineering in Management Information Systems

### Duration

2 years full-time  
(+ preparatory programme for non-economic degree)

### Start date

September

### Learning method

A combination of lectures, case studies & practical applications in the field of management and informatics

### Assessment method:

Master's dissertation, papers and exams

## Further information

**Website:** [www.uhasselt.be/business-engineering-in-IS](http://www.uhasselt.be/business-engineering-in-IS)

**Programme coordinator:** Mrs Rachel Moreau

**E-mail:** [rachel.moreau@uhasselt.be](mailto:rachel.moreau@uhasselt.be)

## Strengths of the Master in Applied Economic Sciences: Business Engineering in Management Information Systems

This master programme basically comes down to an integrated management training. It offers a balanced approach in which conceptual backgrounds and practical applications are blended.

Teaching methods include a combination of lectures, case studies and practical tasks in a management context. In this two year master programme, the economic and managerial knowledge and insights, acquired in the bachelor programme of Business Engineering in MIS, are explored in depth. The master programme consists of courses in business engineering (30 ECTS), in business informatics (42 ECTS), in business analytics and optimization (24 ECTS) and a master's dissertation (24 ECTS). The courses will be taught in English. Instead of the courses in business analytics and optimization students can choose for courses in Information and Communication Technology (taught in Dutch).

## Business Engineering in Management Information Systems: the right choice for you?

The need for an integrated management training does not only apply to students of (business) economics, but also to university graduates in non-economic subject areas, such as engineers, lawyers, psychologists. Business Engineering in Management Information Systems is set up especially to accommodate for these different groups: graduates from both economic and non-economic subject areas can participate. Those from non-economic fields first have to pass a preparatory programme that is tailored to their specific background.

All applicants should hold at least a university degree or a degree of higher education equivalent to a (academic) bachelor degree in Applied Economic Sciences: Business Engineering in Management Information Systems or equivalents. For other bachelor degrees, the Examination Board will consider the applications individually. Depending on the diploma you obtained previously, you may have to do a preparatory programme. Candidates with a non-EEA (European Economic Area) degree should have a sufficient academic level to be proven by a GMAT-score of 550 or more.



COURSES	ECTS Credits
<b>COURSES BUSINESS ENGINEERING</b>	<b>30</b>
• Advanced operational research	3
• Supply chain management	6
• Corporate governance	3
• Business Applications of Multivariate Data Analysis	6
• Innovation and value chain management	6
• Integrated logistics	6
<b>COURSES BUSINESS INFORMATICS</b>	<b>42</b>
• ERP systems	6
• Knowledge discovery management	6
• Business process modeling	6
• E-business strategy	6
• ICT management	6
• ICT governance	6
• Strategic information management	6
<b>COURSES BUSINESS ANALYTICS &amp; OPTIMIZATION</b>	<b>24</b>
<b>OR COURSES INFORMATION AND COMMUNICATION TECHNOLOGY</b>	<b>24</b>
Master's dissertation	24

# MASTER OF TRANSPORTATION SCIENCES (ON-CAMPUS)



A modern and international transport system is important for moving people, goods and information in a regional, national and international context. Moreover it is connected to economic growth. A continuous increase in traffic volumes (passenger transport as well as freight forwarding transport) leads to major challenges concerning land use, impact on urban areas, traffic safety issues, traffic flow, atmospheric pollution and travel behaviour. The international Master of Transportation Sciences of Hasselt University is a multidisciplinary two year programme. It trains students and practitioners to identify transportation and traffic safety problems and to come up with solutions, taking into account several aspects: economic, social, urban planning, environmental and infrastructural. Several transport and traffic safety issues are thus highlighted in an overall multidisciplinary perspective.

“The Master in Transportation Sciences at Hasselt University is the only programme in Europe which is able to provide a multidisciplinary approach to the understanding of the complexity and further development of transport issues”

Alessio Sitran, Italy

Since transportation is a cross-border field, it is also important to put the focus on the international aspects related to this domain.

Students can choose between two specializations (offering English courses): Mobility Management or Traffic Safety.

#### Fast facts

##### Programme

Master of Transportation Sciences

##### Specializations

Mobility Management

Traffic Safety

##### Duration

2 years full-time

##### Start date(s)

September

##### Learning method

A combination of (guest) lectures, research projects, assignments (papers and presentations)

##### Assessment method

Written and oral exams, final papers, master's dissertation, group participation, 100% attendance

##### Options

A part-time semi-distance learning programme

#### Further information

**Website:** [www.uhasselt.be/master-of-transportation-sciences](http://www.uhasselt.be/master-of-transportation-sciences)

**Programme coordinator:** prof. dr. Tom Brijs

**E-mail:** [nadine.smeyers@uhasselt.be](mailto:nadine.smeyers@uhasselt.be)

### Strengths of the Master of Transportation Sciences

The Master of Transportation Sciences at Hasselt University is unique in that:

- It is a multidisciplinary master programme, which will pay attention to economic, social, urban planning, environmental and infrastructural aspects.
- It takes sustainable development into account.
- It focuses on transportation, as well as on traffic safety in an international context.
- It includes excursions during which students learn about and see the current best practice in solving transport problems in different countries.
- Students and practitioners from different countries exchange information about transport and traffic safety problems, solutions and strategies.
- Students can choose between a part-time semi-distance learning programme and a full-time on-site programme.

### Master of Transportation Sciences: the right choice for you?

All applicants should hold at least a university diploma or a diploma of higher education equivalent to a (academic) bachelor degree in traffic safety, transportation/mobility management or equivalents of these degrees. For other bachelor degrees, the Examination Board will consider the applications individually. You will have to follow a preparatory programme during the first semester of the first master year, depending on the diploma you obtained previously. This can be combined with the master programme.

### What are your career prospects?

Graduates are working in different functions in different organizations:

- federal and local government bodies
- consultancies
- (public) transport companies
- medium-sized and large companies
- insurance companies
- interest groups
- research institutes

COURSES			
1st year	Mobility Management	Traffic Safety	Credits
COMPULSORY COURSES			6
• Urban management	X	X	6
• Cost-benefit analysis and environmental economics	X	X	6
• Traffic & transportation modelling	X	X	6
• Methods and techniques of spatial research	X	X	6
• Traffic flows	X	X	6
• Current topics in traffic science (capita selecta)	X	X	6
• Infrastructural impact		X	6
• Activity-based modelling	X		6
• Traffic and travel behaviour	X	X	6
• Case study	X	X	6
OPTIONAL COURSE			6
Total ECTS credit points			60
2nd year	Mobility Management	Traffic Safety	Credits
COMPULSORY COURSES			
• Efficiency of transport & environmental policy	X	X	6
• Intelligent transport systems	X	X	6
• Master's dissertation	X	X	30
SPECIALIZATION COURSES			
Influencing of behaviour		X	6
Management of transportation Companies	X		6
OPTIONAL COURSES			12
Total ECTS credit points			60
			60

# MASTER OF TRANSPORTATION SCIENCES (BY DISTANCE LEARNING)



## Fast facts

### Degree

Master of Transportation Sciences  
Degree awarded by Hasselt University (Belgium)  
If students do not complete the full programme, they receive a certificate per completed module.

### Specializations

Mobility Management  
Traffic Safety

### Start date(s)

September or February

### Application deadline

15th September for 1st semester 15th January for 2nd semester

### Participating universities

Hasselt University (Belgium), Maribor University (Slovenia), NHL University Leeuwarden (The Netherlands), Universidad de Valencia (Spain)

### Learning method

A combination of (guest) lectures, research projects, assignments (papers and presentations), e-learning platform; language: English

### Assessment method

Written and oral exams, final papers, master dissertation, attendance during the residential blocks

### Planning

Maximum two modules per semester

## Further information

Website: [www.uhasselt.be/master-of-transportation-sciences-by-distance-learning](http://www.uhasselt.be/master-of-transportation-sciences-by-distance-learning)

Programme coordinator: prof. dr. Tom Brijs

E-mail: [nadine.smeyers@uhasselt.be](mailto:nadine.smeyers@uhasselt.be)

“This Master is specific to the transportation field of work. The residential blocks are excellently organized. The course administration team is very helpful, easily accessible and approachable. The course material is generally very good and helpful”

Lee Quincey, UK

### Strengths of the Master of Transportation Sciences, by distance learning

The Master of Transportation Sciences at Hasselt University is unique in that:

- It is multidisciplinary study in transportation and traffic (safety), interacting with social, urban, economic, environmental and infrastructural parameters.
- It takes sustainable development into account.
- It focuses on transportation, as well on traffic safety in an international context.
- It is a forum for exchanging information about transport and traffic safety problems, and formulating solutions and strategies with other practitioners from different countries.
- Distance learning: each semester students will attend a one week residential block, held in turn at one of the partner universities in Europe or attend classes from home with video conferencing technologies.
- It can be a starting point for new career opportunities in your current or new job.

### Master of Transportation Science, by distance learning: the right choice for you?

We welcome students, employers and career-minded individuals, working in the field of traffic (safety) and transportation. Practitioners, who want to earn a specialized qualification and broaden/update their knowledge and work experience in respect of the rapidly changing transportation field, are our target group.

All applicants should hold at least a university diploma or a diploma of higher education equivalent to a (academic) bachelor degree, the Examination Board will consider the applications individually. You will have to do a preparatory programme, depending on the diploma you obtained previously.

*“I recommend the course because its flexibility makes it appealing to people who have other competing priorities and a full-time job.”*

Benjamin Changa, UK

Modules of the Master of Transportation Sciences by distance learning		
		Credits
Module 1	Environmental & economic studies	12
Module 2	Logistics management	12
Module 3	Road user behaviour	12
Module 4	Traffic surveys and transportation modeling	12
Module 5	Spatial research and urban policy	12
Module 6	Road safety	12
Module 7	Intelligent Transport Systems and Traffic Flows	12
Optional Module	Module Infrastructural impacts (Traffic Safety) or Management of transportation companies (Mobility Management)	12
Master project	Master's dissertation	30
<b>Total ECTS credit points</b>		<b>120</b>

A description of the modules can be found on [www.uhasselt.be/master-of-transportation-sciences-by-distance-learning](http://www.uhasselt.be/master-of-transportation-sciences-by-distance-learning) under “Programme”.

### Organizational aspects

- The modules are organized in a two-year cyclic schedule. Two modules per semester.
- To gain the master's degree you must successfully pass the seven core modules, one optional module and the master's dissertation, accumulating 120 credit points (ECTS). In general, you will spend your first two years studying eight taught modules.
- To gain module certificates you must successfully pass one or more modules.
- Each semester students have to attend a one-week residential block, held in turn at one of the partner universities in Europe: Hasselt University (Belgium), Maribor University (Slovenia), NHL University Leeuwarden (the Netherlands), Universidad de Valencia (Spain). Attendance of the residential block of a module is compulsory in order to be able to take part in the exams of the module. The residential block is planned at the beginning of each semester. Before the start of each residential block students will receive detailed information about the programme and practical information on the city.

# MASTER OF BIOMEDICAL SCIENCES (FACULTY OF MEDICINE)

The 21st century started as the century of molecular life sciences. Ever since the 1990s when scientists greatly improved our insights into the molecular basis of life processes, the life sciences have developed at a tremendous rate. Various breakthroughs, including the mapping of the human genome, are leading to the rapid development of inter-relationships between formerly autonomous scientific disciplines such as genetics, medicine, pharmacology, biology, and environmental science. This creates new prospects for the academic and business worlds. Investments are huge: all over the world, universities, research institutes and businesses are launching new research initiatives, teaching programmes and business related activities. In accordance with its Lisbon Strategy, aimed at a more ambitious reinforcement of Europe's knowledge-based economy, the EU strongly supports further development of genomics and biotechnology. And these are only two of many future scientific developments in the realm of the life sciences, including proteomics, bioinformatics, bioelectronics and imaging, all of which have numerous applications for human health, wellness and prosperity. The Master of Biomedical Sciences focuses on state-of-the-art methodology, knowledge, insight and academic skills, enabling graduates to unravel the molecular mechanisms of health and disease as independent researchers. The programme provides students with the knowledge and skills required for the proper design of a scientific research project.

Students can choose between three specializations (offering courses in English): Clinical Molecular Sciences, Bioelectronics and Nanotechnology, Environmental Health Sciences.

## Fast facts

### Programme

Master of Biomedical Sciences

### Specializations

Clinical Molecular Sciences  
Environmental Health Sciences  
Bioelectronics & Nanotechnology

### Duration

2 years full-time

### Start date

September

### Learning method

Problem-based and project-learning

### Assessment method

Oral and written exams, assessment of practical skills, scientific writing and presentations



# Clinical Molecular Sciences

## Strengths of the Master of Biomedical Sciences: Clinical Molecular Sciences

This specialization emphasises on the acquisition of knowledge, insight and practical skills with regard to the molecular basis of human disease. The central themes of the curriculum are molecular mechanisms of disease and molecular diagnostics and therapy in disease. This programme is jointly organized with Maastricht University. Both campuses offer expertise in a number of areas, giving students opportunities to participate in ongoing research and receive hands-on, as well as practical experience. Students learn how to obtain new scientific knowledge in the field of molecular life sciences and how to apply this knowledge, e.g. for prevention, diagnosis and therapy. The master programme integrates teaching and training within the scope of cross-border molecular biomedical research and the opportunity for students to participate in this ongoing research.

## Clinical Molecular Sciences: the right choice for you?

The Biomedical Sciences Master programme targets:

- Bachelor graduates interested in life sciences who have a strong motivation to pursue a career as a scientist in this field.
- Graduates who have completed an academic or higher education (bachelor's or master's) in the field of life sciences (including cell biology, molecular medicine, biomedical sciences, biochemistry, biotechnology and molecular biology) who want to extend their knowledge and skills to build a solid basis for a research career.

## What are your career prospects?

In view of the present worldwide investments in life sciences, the labour market prospects are very good. Governments, centres of public health, environmental agencies, genetics and public relations agencies, and pharmaceutical and biotechnology industries are regularly recruiting new staff members. In general, Biomedical Sciences master's graduates qualify for positions in research at universities, hospitals, pharmaceutical and biotechnology industries, contract research organizations and governmental agencies. Graduates may also continue with doctoral studies (PhD).

## Further information:

**Website:** [www.uhasselt.be/biomedical-sciences](http://www.uhasselt.be/biomedical-sciences)

**Programme coordinator:** prof. dr. Veerle Somers

**Email:** [veerle.somers@uhasselt.be](mailto:veerle.somers@uhasselt.be)

“For me personally, this is what biomedical sciences is all about; learning more about the molecular aspects of human diseases as a way of finding novel therapeutic strategies”

Laura De Bock, Belgium

COURSES: 1st year	Credits
Molecular mechanisms of health and disease	12
Molecular diagnostics and therapy	12
Junior practical training & Optional courses	3
Experimental animal research	33
<b>Total ECTS credit points</b>	<b>60</b>
COURSES: 2nd year	Credits
Fundamental and applied research including health care, life sciences, management, quality assurance and clinical research	12
Scientific practical training and Master's dissertation	48
<b>Total ECTS credit points</b>	<b>60</b>

# Environmental Health Sciences

“The master’s years were very exciting because of the important challenges to link theoretical lessons to related practical experiences. Our first experience with conferences and our participation in social and environmental debates broadened our scientific view and helped us to become critical, enthusiastic scientists.”

An-Sofie Stevens and Sofie Thijs, Belgium



## Strengths of the master of Biomedical Sciences: Environmental Health Sciences

The aim of the Environmental Health Sciences specialization is to achieve an understanding of the mechanisms of interaction between humans and their environment. The central theme of this curriculum is therefore to study the complex interactions between the genetic make-up of an individual and environmental factors that may have an impact on human health. This programme is offered at Hasselt University in co-operation with Maastricht University. Students learn how to obtain new scientific knowledge in the field of molecular life sciences and how to apply this knowledge, e.g. for prevention, diagnosis and therapy. The master programme integrates teaching and training within the scope of cross-border molecular biomedical research and the opportunity for students to participate in this ongoing research.

## Environment & health: the right choice for you?

### The Biomedical Sciences Master’s programme targets:

- Bachelor graduates interested in life sciences who have a strong motivation to pursue a career as a scientist in this field.
- Graduates who have completed an academic or higher education (bachelor’s or master’s) in the field of life sciences (including cell biology, molecular medicine, biomedical sciences, biochemistry, biotechnology and molecular biology) who want to extend their knowledge and skills to build a solid basis for a research career.

## What are your career prospects?

In view of the present worldwide investments in life sciences, the labour market prospects are very good. Governments, centres of public health, environmental agencies, genetics and public relations agencies, and pharmaceutical and biotechnology industries are regularly recruiting new staff members. In general, Biomedical Sciences master’s graduates qualify for positions in research at universities, hospitals, pharmaceutical and biotechnology industries, contract research organizations and governmental agencies. Graduates may also continue with doctoral studies (PhD).

## Further information

**Website:** [www.uhasselt.be/biomedical-sciences](http://www.uhasselt.be/biomedical-sciences)

**Programme coordinator:** prof. dr. Jan Colpaert

**E-mail:** [jan.colpaert@uhasselt.be](mailto:jan.colpaert@uhasselt.be)



<b>COURSES: 1st year</b>	<b>Credits</b>
Molecular mechanisms of health and disease	12
Genes, environment and health	12
Junior practical training & Optional courses	36
<b>Total ECTS credit points</b>	<b>60</b>
<b>COURSES: 2nd year</b>	<b>Credits</b>
Development of a research project proposal	12
Introduction to environmental and health policy	
Senior practical training) and Master's dissertation	48
<b>Total ECTS credit points</b>	<b>60</b>

# Bioelectronics & Nanotechnology



## Strengths of the Master of Biomedical Sciences: Bioelectronics and Nanotechnology

The central themes of this programme are: biomaterials, the interface between biological and electronic systems (for example between neurons and integrated circuits) and the broad domain of biosensors. Nanotechnology is concerned with creating these structures at the scale of individual biomolecules.

## Bioelectronics & Nanotechnology: the right choice for you? The programme targets:

- Bachelor graduates interested in life sciences who have a strong motivation to pursue a career as a scientist in this field.
- Graduates who have completed an academic or higher education (bachelor's or master's) in the field of life sciences (including cell biology, molecular medicine, biomedical sciences, biochemistry, biotechnology and molecular biology) who want to extend their knowledge and skills to build a solid basis for a research career.

## What are your career prospects?

Over the years graduates have found positions in:

- governments
- centres of public health
- environmental agencies
- genetics and public relations agencies
- pharmaceutical and biotechnology industries
- research institutes

## Further information

**Website:** [www.uhasselt.be/bioelectronics-master](http://www.uhasselt.be/bioelectronics-master)

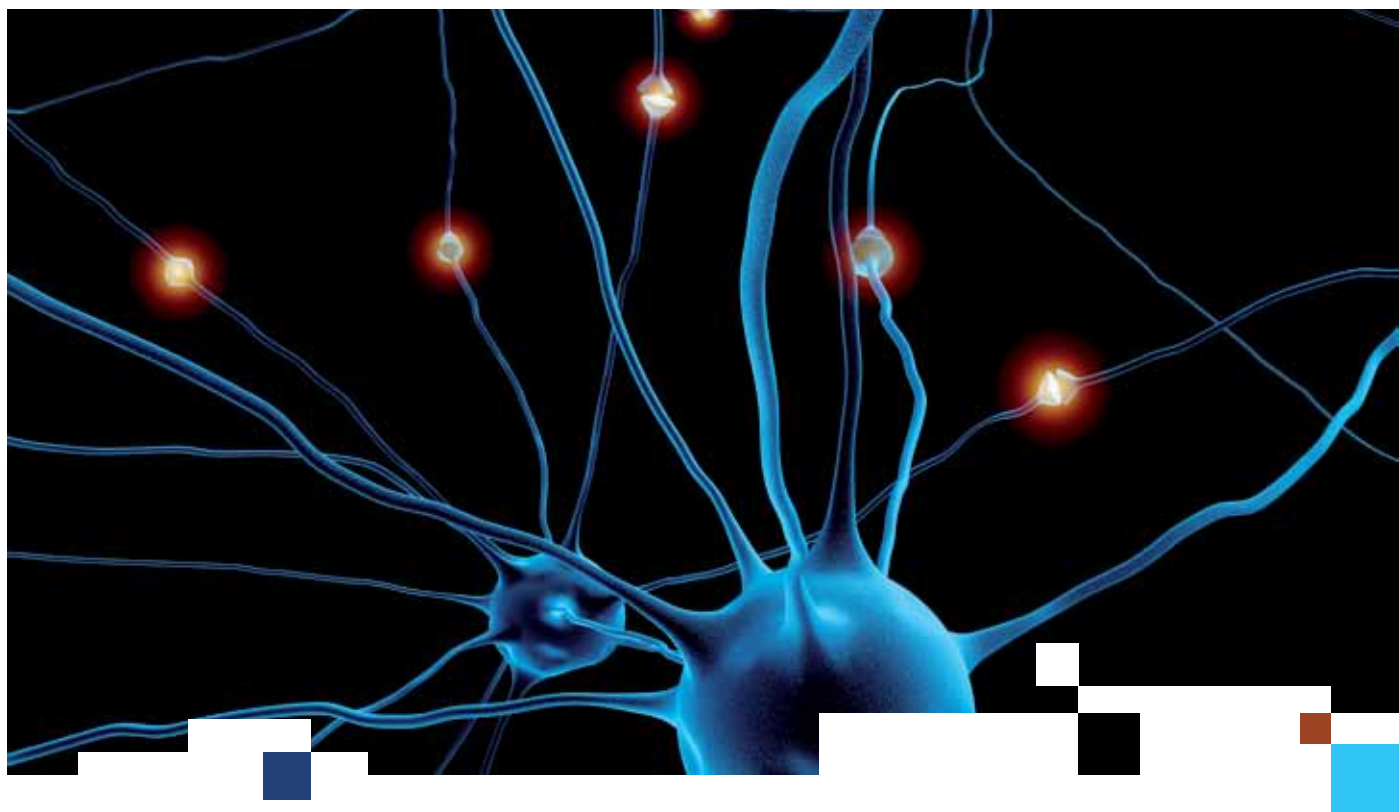
**Programme coordinator:** prof. dr. Patrick Wagner

**E-mail:** [patrick.wagner@uhasselt.be](mailto:patrick.wagner@uhasselt.be) Option:

In the framework of a double-degree programme with Cranfield University (UK), selected students can be given the opportunity to obtain an additional diploma of Master of Applied Sciences during the second year of their studies.

“First of all: the field of research is absolutely interesting and seminal. You can participate in research projects and it is possible to continue after the master programme with a PhD at Hasselt University.”

Fabian Wilbers, Germany



COURSES: 1st year		Credits
Electronics and data acquisition (for students with a medical, biomedical or biological background)		4
Immunology and genetics (for students with a background in physics or chemistry)		4
Biophysics and chemistry		4
Seminars and literature study on biomaterials		4
Biosensors		4
Chemistry of surfaces		4
Nano- and microsystems technology		4
Junior practical training blocks: chemistry, biomedical sciences, materials physics		21
Electives (selection of 3 courses with 3 ECTS credits each) Possibilities are e.g.: Complexity in biosystems, Radiation protection, Microfluorimetry & electrophysiology, Laboratory animal science, and Programming languages.		9
Electrical diagnosis techniques and active implants		3
Nanobiochemistry		3
<b>Total ECTS credit points</b>		<b>60</b>
COURSES: 2nd year		Credits
Molecular bio-analytical methods		3
Soft matter theory		3
Functional molecule modeling		3
Scientific writing and planning of master project		3
Master's project (Senior practical training) and Master's dissertation		48
<b>Total ECTS credit points</b>		<b>60</b>

# Admission Requirements

Hasselt University applies the same policy to its international students as to its Belgian students, though there are some additional requirements. Hasselt University will assess students individually on the basis of their previous academic record and qualifications. General requirements concern diploma requirements and language requirements. Specific admission requirements were mentioned in the programme overview (supra).

## Diploma requirements

Students should hold at least a university diploma or degree certificate or a diploma of higher education equivalent to a bachelor degree (180 ECTS credit points). The Examination Board of the programme evaluates each application individually concerning the applicant's academic record. Depending on the diploma you obtained previously, you may have to do a preparatory programme during the first semester of the first master year. This can be combined with the master programme.

## Language requirements

Candidates who wish to register in an international master programme will need to demonstrate good command of English, both written and spoken. English-language skills need to be confirmed by a recent score on the Test of English as Foreign Language (TOEFL) or the International English Language Testing Systems (IELTS) or any recognized proficiency test.

- a TOEFL-score report (paper based: score 550 or more, computer based: score 213 or more, internet based: score 79-80).
- IELTS-certificate (overall band score 6.0).

The English Language Test can be waived on the basis of an interview or if English-language proficiency is otherwise proven (e.g. if education or part of it was in English).

## How to enrol?

Online pre-registration is compulsory. The Examination Board will only consider duly completed application files. The application file consists of the following items:

- 1 Duly completed application form: <http://www.uhasselt.be/applicationForm>.
- 2 A photocopy of the obtained diplomas or degree certificates in the original language.
- 3 A recent passport photograph.
- 4 Translation of university diploma(s) in English by an official translator.
- 5 Certified translated transcripts of records in the original language, for all programmes completed at university level. The university of origin should provide the transcript of records and a statement in English in which is explained how the assessment marks assigned are to be converted into the standardized US-system or EU-standard ECTS-system. The translation of the transcript of records in English must be made by an official translator.
- 6 English-language skills need to be confirmed (see language requirements).
- 7 APS-certificate: From the academic year 2007-2008 onwards all students from the P.R. China need a certificate of academic screening issued by the Academic Evaluation Centre (APS) of the German Embassy in Beijing to be allowed to enrol at any higher education institution, at language courses or at other preparatory courses in Flanders. The APS certificate is also required for obtaining a student visa to Belgium. More information on APS can be found at their website [www.aps.org.cn](http://www.aps.org.cn). From the academic year 2009-2010 on the cost of the APS-screening will be refunded to all Chinese students enrolled at Hasselt University.

Deadline for submission 2012-2012	
EEA-students	Non-EEA-students
15th of September 2012	1st of February 2012 for Master of Statistics
	1st of May 2012

Applicants will be notified of the Examination Board's decision as soon as possible. Applicants, who are admitted to the programme, will be asked to confirm their application and to pay the tuition fee.

# Money Matters

Tuition fees & health insurance (2012-2013)		
	EEA-students	Non-EEA-students
Master of Management	€578.70	€6000
Master of Transportation Sciences	€578.70	€6000
Master of Statistics	€1713 (Non-Belgian)	€1713
Master of Biomedical Sciences	€1713 (Non-Belgian)	€1713
Health insurance	/	€360

Please note: tuition fees are reviewed annually. You are strongly advised to visit our website for the most up-to-date tuition fee information.

Reduced registration fees are possible for students:

- from some developing countries within the framework of a co-operation between universities or other institutions.

Special registration category: fixed fee PhD or doctorate

- €275 in the first year of registration and in the year of defence, no fee for in-between years.

## Health insurance

Covering the full period of stay in Belgium, starting on the day of arrival, health insurance is compulsory for all non EEA-students. The premium amounts to €30/month or €360 for 12 months. The premium for health insurance must be paid together with the tuition fee.

## Payment

Applicants, who are admitted to the programme by the Examination Board, will be asked to confirm their application and to pay the tuition fee. Registration of international students is only possible after payment of the tuition fee, augmented with the premium for health insurance (only for non- EEA-students). Payment in cash or by credit card is not possible. As long as a student has not paid all outstanding registration fees the registration is suspended.

## Living expenses

The following are the approximate costs per annum (10 months) at Hasselt University. These amounts do not include travel expenses, nor expenses of (touristic) trips in Belgium and surrounding countries.

Cost Type	Costs in EURO (€)
Accommodation	€2000 to €3500
Catering	€2000 to €2500
Local Transport (Hasselt-area)	For free, once you have a Student ID-card
Leisure Time	€600
Textbooks etc.	€600
Other expenses	€500
<b>TOTAL</b>	<b>€5700 up to €7700</b>

For more information please contact the international office:

Lia van Hoef

Email: [lia.vanhoef@uhasselt.be](mailto:lia.vanhoef@uhasselt.be)

Phone: +32 (0)11 26 8014

Sarah Verlackt

Email: [sarah.verlackt@uhasselt.be](mailto:sarah.verlackt@uhasselt.be)

Phone: +32 (0)11 26 8015



Hasselt University  
Campus Diepenbeek | Agoralaan | Building D | BE-3590 Diepenbeek  
Campus Hasselt | Martelarenlaan 42 | BE-3500 Hasselt  
[www.uhasselt.be/en](http://www.uhasselt.be/en)



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