



Informations ERASMUS + 2019-2020

Louvain-la-Neuve, February 5th, 2019

Dear colleagues,



The Faculty of Bioscience Engineering of the Université catholique de Louvain is glad to have a fruitful collaboration with your university in the frame of the ERASMUS+ programme.

You will find below our electronic documentation about the details on the training programs offered by our Faculty of Bioscience Engineering. These are organised in three cycles and intended for your students who would like to stay in our university during the next academic year.

As of this year, we propose a new master : Specialised master in brewing engineering.

Our Faculty proposes research/master thesis internships as well, here is the link to the details: <u>https://uclouvain.be/fr/facultes/agro/ou-faire-un-stage-dans-la-faculte.html</u>

We remain at your disposal for any further information and invite you to visit our website for more details: <u>https://uclouvain.be/en/faculties/agro/international-exchanges.html</u>

We are looking forward to welcoming soon and assisting your students as best we can.

Sincerely yours,

Adeline Paulet Secrétariat cellule mobilité

amot

Prof. Sébastien Lambot Coordinateur académique mobilité

Please do not hesitate to contact us: mobilite-agro@uclouvain.be

Bioscience Engineer



Master's Programmes in Bioscience Engineering :

- Chemistry and Bioindustries (120 credits)
- Forests and Ecosystem Management (120 credits)
- Agricultural Sciences (120 credits)
- Environmental Sciences and Technology (120 credits)







Welcome Welcome to AGRO Louvain, the Faculty of Bioscience Engineering

Thanks to its human scale, the UCLouvain Faculty of Bioscience Engineering enables students, members of staff and lecturers to mix with one another in a very friendly atmosphere.

This is a place where responses are worked out to the major challenges facing our society : the environment and the future of our planet, the management of renewable natural resources, the preservation of biodiversity, food safety and security, the evolution of agriculture and biotechnologies, the optimal use of genetic resources and more. Located on a pleasant and lively campus, as part of a university with an international reputation, the programmes offered at the Faculty include in a great number of courses given in English.

The Faculty of Bioscience Engineering is:

- 1100 first- and second-cycle students;
- 600 members of staff: professors, researchers, technical and administrative staff;
- specialisations in all fields of bioscience engineering;
- a stimulating study environment where exchanges between the disciplines enrich research and teaching.

The Faculty develops teaching and research activities in four areas such as : agronomy, chemistry, the environment, the management of forests and natural areas.







Our Master programmes



MASTERS IN BIOSCIENCE ENGINEERING

🖄 120 crédits, 2 years

- Chemistry and Bioindustries
- Forests and Ecosystem Management
- Agricultural Sciences
- Environmental Sciences and Technology

THE FACULTY OF BIOSCIENCE ENGINEERING WELCOMES

- international students wishing to do their entire master's course at UCLouvain (admission conditions: www.uclouvain.be/enrolment)
- students who would like to participate an Erasmus-type exchange
- students who want to do a research placement or an internship in a laboratory or part of their master's thesis.

PHD

 Doctorate in Agriconomical Sciences & Bioscience Engineering

The bioscience engineering programmes organised by UCLouvain are recognised by the Commission des Titres d'Ingénieur (engineering accreditation body) and therefore benefit from the European EUR-ACE label attesting to their quality and international reputation.

www.cti-commission.fr • www.enaee.eu



A top university right at the heart of Europe

UCLouvain is one of Belgium's and Europe's leading universities. For almost 600 years, it has welcomed students from across the world, without regard to their political or religious beliefs. The University strives to be highly multicultural, multilingual, open and tolerant.

- 30,000 students, of whom 5,700 come from abroad and represent 120 nationalities
- 5,800 academics, scientists, administrative and technical collaborators
- 185 Master's programmes in all fields of study
- 22 doctoral schools
- 21 research institutes, 25 technology platforms
- 3 science parks, 61 spin-offs
- 150 million euros in research grants per year
- 150,000 alumni worldwide.

With one Nobel Prize in medicine, 21 Francqui Prizes and 27 ERC Grants, UCLouvain enjoys a world-class reputation and is well placed in international rankings : top 1.25% in the world (THE, QS Rankings)

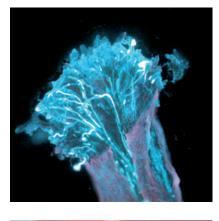
- 128th in the "world university ranking"
- 4th comprehensive French-speaking university in the world **
- Included amongst the world's elite institutions in 28 of the 46 subjects ranked in QS Rankings 2017 ***

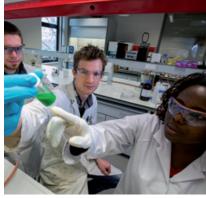
*Times Higher Education ranking 2016-2017 – **QS ranking 2016-2017 – ***QS ranking by subject 2017











Bioengineers work today to improve the world of tomorrow

A RESPONSE TO THE CHALLENGES OF THE 21ST CENTURY

University-level bioengineering training provides the best tools to take up the main environmental challenges facing our planet in the 21st century: preservation of biodiversity, extension of responsible farming and forestry production, natural resources management, development of renewable energies and biomaterials, high quality food production, prevention of cancers and other chronic diseases, depollution of industrial sites.

AN ENGINEER OF THE LIVING WORLD

Bioengineers are engineers with a wide-ranging knowledge of the living world and the ability to devise production methods and technological processes adapted to the requirement of the sustainable world. They have the capacity to devise, implement and manage complex projects, taking account of their human, environmental, economic and technical dimensions.

SCIENTIFIC VERSATILITY

Versatile scientists who can understand biological, chemical and physical phenomena as well as economic and social processes, bioengineers are also innovators and entrepreneurs.

HUMAN VALUES

During their studies, bioengineers learn to work as part of a multidisciplinary team in a spirit of solidarity and respect for opinions and cultures. They open up to the world and form their own convictions through their many contacts with professionals in a wide range of organisations, from local associations to multinational companies.

A WIDE VARIETY OF PROSPECTS

Bioengineering studies grant access to a wide range of jobs in a variety of fields, from support for farming practices to the design of power stations, from brewing to the management of tropical forests, from soil depollution to the development of new vaccines, from the management of epidemiological databases to land-use planning.

HIGH EMPLOYMENT LEVEL

The rate of employment among newly qualified bioengineers exceeds 90% in the year following the completion of their studies. Most of these jobs are related to bioscience engineering. Many opportunities to progress and diversify then arise during the professional careers of bioengineers.

Jobs prospects

The skills you will have acquired by the time you complete your biocience engineering degree Bioengineers fill a wide variety of positions (research fellow, scientific expert, project leader, production manager, etc.) in many different fields and sectors (industries, agricultural or forestry sector, agrifood sector, biomedical, chemical or environmental fields, health, etc.).

- You will master a multi-disciplinary body of scientific knowledge which will serve as a basis for you to act with expertise in one of the fields of bioengineering.
- You will build up a knowledge base in engineering and management.
- You will devise and apply strict and innovative scientific approaches to resolve complex problems in contexts that may sometimes be unfamiliar.
- You will manage multi-disciplinary projects, alone and as part of a team, with those concerned, taking into account objectives and integrating scientific, technical, environmental, economic and human components.
- You will communicate, argue and convince in French and English.

- You will act as a critical and responsible citizen, placing the global stakes of sustainable development at the heart of your concerns.
- You will constantly acquire new knowledge and develop new skills.

The Faculty of Bioscience Engineering

has a large international network and actively engages abroad through

- Welcoming exchange students
- Possibilities of studying abroad for students
- Internships abroad
- Master internships
- Development cooperation
- Bilateral agreements between universities in research, education or services to society
- Teachers and researchers exchange, in particular in European and international networks

The Faculty has concluded exchange students agreements with more than 30 institutions, in more than 20 countries and regions (Flanders, Canada and South America).







Being a student at the Faculty of Bioscience Engineering







A varied and highperformance working environment

THE FACULTY PROVIDES

- specialised laboratories, modern classrooms, discipline-specific libraries;
- large-scale experimentation sites:
 - a 200 ha forest and two state-of-the art research farms at walking distance from Louvain-la-Neuve ,
- an agronomy field research center near Bastogne in the Ardennes
- a 2000 m² state-of-the-art greenhouse in Europe among the most advanced in Europe;

All master programmes include a socioprofessional work placement lasting several months in a company or research laboratory.

UCLouvain is a French-speaking university but above all, it is 'English friendly'. In addition to the possibility of following courses given entirely in English, you will have the chance to acquire or improve your

The Faculty of Bioscience Engineering welcomes many exchange students every year, mainly through the Erasmus + programme.

These students can choose a certain number of credits and thereby supplement their programme with courses in French or make their selection from over 130 course credits in English.

The pedestrian campus of Louvain-Ia-Neuve spans over a 2 km (1.3 miles) radius and is bordered by 300 hectares (750 acres) of woods. This calm yet connected environment has also been chosen to host offices of approximately 270 companies with among them world leaders such as AGC Glass Europe HQs, lon Beam Application (IBA), Lhoist or GlaxoSmithKline (GSK).

The Faculty of Bioscience Engineering offers a stimulating environment for both students and researchers, it. It also favours personal development and well-being. Sport is a good way to meet others and integrate with the student population. With an offer of over 90 sports during the academic year, UCLouvain gives you the opportunity to practice your favorite sports or discover new ones. The Blocry Center

- interactive teaching, backed up by digital educational platforms;
- IT rooms equipped with all the software programs needed to carry out the work required during the course.

knowledge of French, particularly in the Institute of Modern Languages, which is equipped with the latest language-learning technologies.

Information: www.uclouvain.be/exchange-student

offers both indoor facilities -24 sports halls, a major climbing wall (1900m², 16m high-6200 square feet, 52ft high) and a new athletic track to be built in 2018- and 13 ha (32 acres) of outdoor fields. UCLouvain students have access to all these infrastructures and services for only 50€ as the university covers part of the costs.

A strong emphasis is also put on culture. Theatre, cinema, concerts, shows, exhibitions, conferences - cultural activities abound at UCLouvain. This is hardly surprising as the university invests heavily in culture inviting each year an artist in residence and organizing a cultural season comprising as many as 50+ cultural events. Finally, our Faculty enjoys the proximity of the university museum.

The quality of teaching and tutoring

Innovation is second nature to UCLouvain. The University applies i to research but also to teaching, constantly re-examining its purpose and methods.

UCLouvain is particularly attentive and sensitive to offer to its students the welcome and support they might need. Wether this involves lending assistance in finding accomodation or completing all the enrolment formalities, offering a personalized welcome to the faculty and easy access to language courses or providing welfare, psychological and educational support where needed, every effort is made to ensure that newcomers quickly feel part of the student community.

Learning languages

placements

Master's

Erasmus exchanges at the Faculty of Bioscience Engineering

Louvain-la Neuve: a stimulating living environment



Master in Bioscience Engineering : Chemistry and Bio-industries

Programme: www.uclouvai	n.be/en-prog-birc2m	Campus: Lo		Day Schedule	Duration: 2 years
Language: French	Activities in Er	n glish : YES	Activities in othe	r language: NO	Internship: YES

The bioscience engineering master programme in chemistry and bio-industries trains professionals able to understand complex chemical, biochemical and biological processes at various levels and devising new technological procedures (biotechnologies, nanotechnologies, etc.).

PROGRAM	ECTS	
CORE COURSES AND PROFESSIONAL FOCUS	50	 Process engineering: unit operations Industrial Project in Chemical and Biochemical Engineering Biochemical and Microbial Engineering Physical Chemistry Analytical Chemistry Organic Analysis Biochemical Analysis and Genetic Engineering Chemometrics Bibliographical Team Project: Chemistry and Bio-industries Ethics
MASTER THESIS	30	Master thesis + Master thesis' accompanying seminar
INTERNSHIP	10	Masters Internship or free choice of courses for 5 credits
OPTIONS COURSES	30	 Science, Technology and Food Quality Biomolecular and Cellular Engineering Nanobiotechnology, Materiels and Catalysis Environmental Technology, Water, Earth, Air Information Analysis and Management in Biological Engineering Busniness Creation



This programme trains bioengineers in the field of the management, protection and reasoned and sustainable exploitation of forests and natural areas, in multiple ecological and socio-economic contexts.

PROGRAM	ECTS	
CORE COURSES AND PROFESSIONAL FOCUS	65	 Foresy Ecology and Vegetation Analysis Applied Silviculture and Dendrology Habitat and Species Management Forest Mensuration and Inventory Topometry and Photogrammetry Applied Geomatic Statistics Applied Soil Sciences Forest Pathology Wood Anatomy Eand Basic Material Properties Forest Operationsand Wood Processing Forest Economy and Ploicy Forest Management and Planningin Temperate and Tropical Biomes Land Management Integrated Forest Management Practicum Forest Field Trip Ethics
MASTER THESIS	30	Master thesis + Master thesis' accompanying seminar
INTERNSHIP	10	Masters Internship or free choice of courses for 5 credits
OPTIONS COURSES	15	 Ecosystems and Biodiversity Tropical Forestery and Development Information Analysis and Management in Biological Engineering Business Creation



Master in Bioscience Engineering : Agricultural Sciences

Programme: www.uclouva	in.be/en-prog-bira2m	Campus:		💮 Day Schedule	Duration: 2 years
Language: French	Activities in Eng	lish: YES	Activities in other	language: NO	Internship: YES

This programme offers bioengineers a specialisation in sustainable animal and plant production in response to the challenges of the environmental balance, the socio-economic constraints of the rural world, food safety and security imperatives and consumer's needs in terms of nutritional and health qualities.

PROGRAM	ECTS	
CORE COURSES AND PROFESSIONAL FOCUS	41	 Agrarian systems and farm Plant production Animal production Principles of phytiatry Génie des procédés : opérations unitaires Biometry : analysis of the variance Applied biotechnology Decision Tools and Farm Management Agricultural and rural policies Interdisciplinary project in agronomy Ethics
MASTER THESIS	30	Master thesis + Master thesis' accompanying seminar
INTERNSHIP	10	Masters Internship or free choice of courses for 5 credits
OPTIONS COURSES	39	 Science,Technology and Food Quality Water and Earth Resources Integrated Agronomy Integrated Crop Protection Analysis and Management in Biological Engineering Agricultural and Natural Resource Economics Business Creation



Master in Bioscience engineering : Environmental Sciences and Technology

Programme: www.uclouvain.be/en-prog-bire2m					Duration: 2 years
Language: French	Activities in English: YES		Activities in other	language: NO	Internship: YES

This course offers a specialisation in the management, preservation and reasoned exploitation of renewable natural resources and natural and anthropised ecosystems.

PROGRAM	ECTS	
CORE COURSES AND PROFESSIONAL FOCUS	30	 Applied Geomatic Topometry and Photogrammetry Applied Soil sciences Water and Soil Quality's Evaluation Agrarian Systems and Farm Territorial Diagnostic and Decision Aid Decision Tools and Project Management Statistics Ethics
MASTER THESIS	30	Master thesis + Master thesis' accompanying seminar
INTERNSHIP	10	Masters Internship or free choice of courses for 5 credits
OPTIONS COURSES	50	 Environmental Technology: Water, Earth, Air Land Development Water and Earth Resources Information Analysis and Management in Biological Engineering Business Creation

Why choosing this bioscience engineering degree at UCLouvain ?

FOR ITS INTERNATIONAL FOCUS

The Faculty of Bioscience Engineering offers its students an international dimension via contributions from foreign professionals to the courses and through placements or internships all over the world: professional immersion during the bachelor's course, Erasmus exchanges, socio-professional work placements, research residencies as part of the master's thesis.

FOR ITS ADVANCED SCIENTIFIC ENVIRONMENT

The university degree offered to future bioengineers in Louvain-Ia-Neuve is based on high-performance research programmes organised in three institutes linked to the Faculty of Bioscience Engineering : the Institute of Condensed Matter and Nanosciences, the Institute of Life Sciences and the Earth and Life Institute. These institutes have a total of over 600 researchers and benefit from structured collaborations with leading international research centres.

FOR THE SETTING IN LOUVAIN-LA-NEUVE

Louvain-la-Neuve is a modern and open university town that provides an ideal setting for an enriching and instructive university life, thanks to its interdisciplinary, international and inter-generational character and its wide range of cultural activities, its advanced sports infrastructure accessible to all students and its rich and diverse range of clubs and societies.

FOR ITS QUALITY

The Faculty of Bioscience Engineering is renowned for its high-quality training and received the European 'EURACE' label awarded by the 'Cti' - Commission des Titres d'Ingénieur (engineering accreditation body) for its four bioscience engineering master courses.

BUT ALSO:

- for the friendly atmosphere in the Faculty of Bioscience Engineering, established on a human scale where mutual support combines with the concern for excellence and efficiency;
- to be part of a prestigious university with an international reputation.

Further training

• A doctorate is one of the many career options open to bioengineers. This provides an opportunity to take the time to train in scientific research and practice at professional level.

) Information: www.uclouvain.be/agro

 The interdisciplinary master's course in science and environmental management is intended for students and professionals who already have university training in one discipline and wish to expand their field of knowledge to include other disciplines involved in environmental management and sustainable development.

) Informations: www.uclouvain.be/en-prog-envi2m



() UNIVERSITÉ CATHOLIQUE DE LOUVAIN

FACULTY OF BIOSCIENCE ENGINEERING

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- Studying at UCLouvain Centre d'information et d'orientation (CIO) www.uclouvain.be/cio
- Register at UCLouvain Service des inscriptions (SIC) www.uclouvain.be/enrolment
- Financial assistance
 Service d'aide aux étudiants (AIDE)

www.uclouvain.be/aide

Accomodation

Service des logements (LOGE) www.uclouvain.be/logement

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www.uclouvain.be/futur-etudiant

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UNIVERSITÉ CATHOLIQUE DE LOUVAIN Science and technology sector Faculty of Bioscience engineering Louvain-la-neuve







Programme details: www.uclouvain.be/en-prog-bras2mc		Campus : Louvain-la-Neuve	Daytime schedule	
Duration: one year	Language of instruction: Fr	rench O Activities in English: YES		Internships: YES

The programme imparts the multidisciplinary knowledge necessary for students to gain a comprehensive understanding of the entire brewing process. The course emphasises the fundamentals of chemistry, biochemistry and brewing microbiology as an essential basis for optimal process utilization. The diversity of participating professors, whose university and/or industry careers are international in scope, guarantees an array of complementary approaches.

Another major asset is the programme's placement of students in a laboratory where they make multiple outside contacts and experience the cutting edge of brewing research.

Completing a research internship sponsored by an industrialist, visiting companies and sharing experiences with students of diverse origins allow students to settle on a career path leading to the fulfilment of their goals.

PROGRAMME		
MANDATORY Courses	 Malt Biochemistry and Technology Hop Chemistry and Technology for Wort Boiling and Dry-hopping Brewing Fermentation Genetics, Biochemistry and Technology Organoleptic and Microbiological Qualities of Beer and Wine Special Focus on Recent Brewing Developments Food Chemistry Internship - Dissertation 	
ELECTIVES	 Food Microbiology Technological and statistical quality control Surface and colloid chemistry Physiological and nutritional biochemistry 	

Career prospects

Your skills and knowledge upon earning the master's degree

A resurgence in the brewing sector has been driven in part by the creation of a large number of `craft breweries' throughout the world, but also by the genuine need of large multinationals to find qualified staff. The master's degree opens doors to the brewing industry at the level of large multinational research and development departments as well as of production and technical management in breweries of various sizes. The brewery is probably one of the most

complete food industry, performing an extensive sequence of thermal, separation

- You will be an expert in the field of brewing engineering, able to diagnose and solve problems related to malting, mashing, boiling, fermentation and beer filtration.
- You will have broadened your knowledge and skills in order to make diagnoses and implement solutions in a professional context, being able to self-assess and communicate by adapting to others.
- Multipurpose and multidisciplinary, the advanced master's degree emphasises acquiring knowledge and skills by

Admission requirements

Holders of a Belgian university master's degree in engineering, chemical engineering, bioindustrial engineering, agricultural engineering, bioengineering, or civil engineering, and holders of a degree recognised as equivalent by the Faculty of Bioengineering, are granted direct admission to this programme.

For all other academic degrees, an application for admission must be submitted online to the Admissions Office, which will transfer the application to the Faculty of Bioengineering.

Admission via 'Accreditation of Prior Experience' (Valorisation des acquis de l'expérience, VAE) is also possible, depending on your prior experience.

UCLouvain application procedure

Whether you are a Belgian or international student, the application procedure begins online at www.uclouvain.be/enrolment.

- IF YOU DO NOT HOLD BELGIAN NATIONALITY, PLEASE RESPECT THE FOLLOWING DEADLINES:
- 31 August: online application deadline for EU nationals who do not reside in Belgium
- 15 September: deadline for both online application and receipt of application files for applicants of any nationality who reside in Belgium.



and fermentation processes. The versatility of our graduates makes them particularly attractive to the many other agri-food industries that frequently approach them.

combining theory and technique. It will make you an expert who masters a variety of scientific and technological tools, empowering you to take effective action in a broad range of professional situations.

() www.uclouvain.be/en-prog-bras2mc-cond_adm

www.uclouvain.be/enrolmen







Why choose UCLouvain to pursue a master's degree in brewing engineering?

TO POSITION YOURSELF INTERNATIONALLY

UCLouvain is the world's first university French-language offering a brewing programme. It has been developed in synergy with other international courses. In addition, the programme incorporates a two-week international exchange, with the Université de Bourgogne Franche-Comté, which aims to illustrate the similarities and differences between beer and wine.

FOR THE EXCELLENCE OF ITS COURSEWORK

The programme is taught by professors with demonstrable university and/or industrial experience at the international level, which guarantees genuine complementarity in their educational approaches. The master's degree meets market needs in terms of both theory and practical training, by taking into account the latest industry advances.

FOR ITS OPENNESS TO THE PROFESSIONAL WORLD

Via the possibility to pursue an internship sponsored by an industrialist or/and to visit numerous companies, the master's programme offers you the opportunity to firmly position yourself in your chosen career path.

AND ALSO

- to join a prestigious, internationally renowned university;
- to benefit from the Louvain-la-Neuve campus, which offers the ideal environment for an enriching student lifestyle and that facilitates cultural activities, international exchange and engagement.

This master's programme is organised with the support of AB-InBev. ABInBev







(i) UNIVERSITÉ CATHOLIQUE DE LOUVAIN FACULTY OF BIOSCIENCE

ENGINEERING

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Service des logements (LOGE) www.uclouvain.be/accommodation



www.uclouvain.be/futur-etudiant

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