UCLouvain

BIR1BA

2026 - 2027

Bachelor in Bioengineering

At Louvain-la-Neuve - 180 credits - 3 years - Day schedule - In French
Dissertation/Graduation Project : **NO** - Internship : **YES**
Activities in English: **NO** - Activities in other languages : **NO**
Activities on other sites : **NO**
Main study domain : **Sciences agronomiques et ingénierie biologique**
Organized by: **Faculty of bioscience engineering (AGRO)**
Programme acronym: **BIR1BA** - Francophone Certification Framework: 6

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BIR1BA - Introduction

Introduction

Introduction

Au terme du premier cycle,

- vous aurez reçu une solide formation scientifique qui contribuera à faire de vous un·e professionnel·le capable de s'adapter à toutes les situations ;
- vous aurez entamé la formation spécialisée qui sera poursuivie au cours du master ;
- vous serez exercé·e à l'analyse et à la résolution de problèmes de plus en plus complexes, seul·e ou en équipe, notamment grâce aux projets proposés au cours des 1er et 2e blocs annuels du programme ;
- vous aurez pris contact avec le milieu professionnel pour aiguiser votre motivation et vous aider à choisir votre parcours de spécialisation en master.

Ce premier cycle d'études délivre le diplôme de Bachelier en sciences de l'ingénieur, orientation bioingénieur.

Your profile

Pour aborder les études de bioingénieur, il faut avoir certains goûts : celui des sciences, sans doute, mais aussi celui de se poser des questions. Il faut aimer réfléchir et raisonner, avoir envie de résoudre des problèmes.

Pourvu que vous soyez assidu-e et motivé-e, le nombre d'heures de mathématiques ou de sciences que vous avez suivies dans le secondaire ne sera pas le seul facteur de votre réussite. Une bonne maîtrise du français vous aidera à saisir les nuances de l'énoncé d'un problème ou à mieux comprendre le développement d'une théorie.

Your future job

Une fois bachelier, vous poursuivrez votre formation par un Master en bioingénieur. Quatre masters vous sont proposés : « sciences agronomiques », « chimie et bioindustries », « sciences et technologies de l'environnement » et « gestion des forêts et des espaces naturels ».

Ces masters, qui se déroulent sur deux ans, vous permettront d'acquérir des savoirs approfondis dans une spécialisation de votre choix ainsi que la maîtrise d'outils professionnels en lien avec la discipline, tout en bénéficiant d'une formation polyvalente dans tous les domaines de la bioingéniérie.

Your programme

Le programme de bachelier vous formera aux disciplines de base des sciences du vivant ainsi qu'aux techniques de l'ingénieur. Elles constitueront les piliers indispensables à la formation intégrée de bioingénieur.

Ces disciplines relèvent de cinq domaines principaux qui sont approfondis au cours des trois années :

- mathématiques, analyse et traitement de données,
- sciences et ingénierie de la matière et des procédés,
- sciences de la vie,
- sciences du globe et des écosystèmes,
- sciences humaines.

BIR1BA - Teaching profile

Learning outcomes

Bachelor in Bioengineering students must undertake to gain a good grounding in order to tackle the training provided in the various Masters organised by the Faculty of Biological, Agricultural and Environmental Engineering.

The objective is to develop into individuals working towards a better reconciliation of human activities and respect for the environment, developing sustainable responses to the major challenges facing our societies today and tomorrow, and improving our quality of life.

The Bachelor programme of study allows students to acquire a broad knowledge base and scientific and technological expertise in the life sciences field, allowing them to understand and conceptualise biological, agricultural and environmental systems.

Through multidisciplinary training, the future bioengineering graduate will develop their training and personal project which they will work on during their Masters programme, and do so with increasing independence.

On successful completion of this programme, each student is able to :

1 To use a body of knowledge (knowledge, methods and techniques, models and processes) in life and human sciences in the fields of agricultural, biological chemical and environmental engineering.

1.1 To know and understand the fundamentals and basic concepts of the fundamental sciences (core courses), to master their formalism and more specifically to do so for the following subjects:

- Mathematics, analysis and data-processing: general mathematics, probability and statistics
- Material sciences: general, organic and analytical chemistry, general physics
- Life sciences: cell, plant and animal biology, plant physiology, biochemistry, genetics, microbiology
- Earth sciences and ecosystems: earth sciences and biosphere engineering

1.2 To know and understand the basic concepts as part of an introduction to philosophy and economics.

1.3 To master a body of knowledge in one of the bioengineering fields (additional module):

- Additional module on agriculture or the environment:
- Life sciences: physiology of the development and systematics of plants of agronomic interest, Animal Physiology (additional module on agronomy only)
- Earth sciences and ecosystems: soil science, bioclimatology, applied ecology, forest science (additional module on environment only)
- Human sciences: environmental economics
- Additional modules on chemistry, material sciences: physical chemistry, organic and analytical chemistry, organic analysis: separation techniques, colloid and surface chemistry

1.4 To master the fundamental experimental techniques in chemistry, physics, biology, earth sciences.

1.5 To use knowledge critically when faced with a simple problem.

1.6 Using several strands of knowledge (to articulate concepts from different fields) to understand a multidisciplinary problem.

2. To make critical use of a body of "engineering and management knowledge" with expertise in the fields of agricultural, biological, chemical and environmental engineering.

2.1 To know and understand the fundamentals, concepts and basic tools in engineering sciences.

- Mathematics, analysis and data-processing: IT and applied mathematics, systems analysis, transfer phenomena
- Earth sciences and ecosystems: biosphere engineering
- Human sciences: business operation and management; environmental economics (only for additional modules on agronomy and environment)
- Material sciences (only for additional modules on chemistry): thermodynamics

2.2 To understand and use the basic tools in engineering sciences (e.g.: Information technology tools, programming, etc.)

2.3 To activate and use their knowledge of engineering with a critical mind and to tackle a simple problem using a quantitative approach.

2.4 To know and understand the basic concepts and major theories in management.

3. To apply an appropriate methodology for research, implementing an analytical scientific and, if applicable, systematic approach in order to consider an original research problem in more depth relevant to agricultural, biological, chemical and environmental engineering, incorporating several disciplines.

This skill set will develop throughout the 5 years. Amongst others, it requires the use of a set of skills as described above. These skills correspond in fact to the different stages of the scientific approach.

The majority of these skills are developed in the Bachelor and Master programmes, with differentiation predominately on 3 levels:

- the level of detail and complexity applied to the scientific problem/research studied;
- *the degree of innovation shown by the student;*
- *the degree of autonomy demonstrated by the student throughout the process.*

3.1 To search for information on a defined and simplified scientific problem, to assess its reliability based on the nature of the source of the information and to produce a summary.

3.2 To identify the causal relations between the key elements of a single scientific problem.

3.3 To implement a rigorous methodology (experimentation – observation – modelling) allowing the acquisition of data to answer a clearly defined scientific question.

3.4 To master the basics of statistical analysis of scientific data.

3.5 To analyse and interpret the results to produce a reasoned critique on a well-defined scientific question.

3.6 To demonstrate an ability to summarise and formulate conclusions on a well-defined scientific question.

3.7 In each of the skills mentioned above, to demonstrate rigour, precision and the critical thinking essential for any scientific method.

4. To formulate and analyse a simple problem in the agricultural, biological, chemical and environmental engineering fields linked with new situations presenting a degree of uncertainty. To be able to develop pertinent, sustainable and innovative solutions through a systematic and multidisciplinary approach.

This skill set will develop throughout the 5 years. It requires the use of a set of skills as described above. These skills correspond in fact to the different stages of the engineering approach. The majority of these skills are developed in the Bachelor and Master programmes, with differentiation on:

- the complexity and scope of the problem addressed;
- *the degree of autonomy demonstrated by the student throughout the process;*
- *the degree of depth in each skill.*

4.1 To extract relevant information to formalise a simple problem, with a view to defining one or more clear questions.

4.2 To identify the key concepts required to resolve the simple problem based on the knowledge acquired.

4.3 To analyse and resolve the simple problem using key concepts and to formulate hypotheses underlying the concepts.

4.4 To identify solutions and the limits of their application based on hypotheses formulated during the resolution stage.

5. To design and implement a multidisciplinary project, alone and in teams with the stakeholders concerned. This project should take the objectives into account and incorporate scientific, technical, environmental, economic and human factors.

The graduate should be able to lead a project alone and in a group, focusing on projects of a scientific and technological nature with highly targeted objectives.

5.1 To know and understand the principles of collaborative learning.

5.2 To plan and develop all the stages of a project alone and in a team based on predefined objectives and work together after having allocated the tasks.

5.3 To contribute to the progress of the project and the success of the team in sharing information and expertise in order to achieve the intended objective.

5.4 To recognise and take into account the diverse viewpoints of team members.

6. To communicate, interact and convince in a professional manner, in French and English (level B2 of the Common European Framework of Reference for Languages published by the Council of Europe), both verbally and in writing, adapting to their conversational partners and the context.

6.1 To understand and use scientific texts and literature and basic technical documents in French and English.

6.2 To communicate information, ideas, solutions and conclusions as well as the knowledge and underlying principles, in a clearly structured, substantiated, concise and comprehensive way (as appropriate) both verbally and in writing according to the standards of communication specific to the context.

6.3 To develop logic diagrams to pose simple questions in summary form.

6.4 To produce graphs, with and without IT equipment, meeting scientific standards.

6.5 To communicate the results of observations and/or experiences in a relevant way using tables and scientific graphs.

6.6 To communicate effectively and respectfully with peers and teachers, demonstrating listening skills, empathy and assertiveness.

6.7 To conduct themselves professional environments with the correct attitude, to interact with players in the field, with colleagues.

6.8 To explain and argue their opinions and views with peers and teachers.

6.9 To learn to use basic software for effective communication in the training activities.

6.10 To learn English to level B2 according to the European Framework.

7. To act with concern for sustainable development challenges, be open to the world and adopt a humanistic outlook.

7.1 To demonstrate intellectual independence of thought, to regard knowledge critically.

7.2 To make decisions and act, on their training path, with respect for ethical values and in compliance with laws and conventions.

7.3 To understand the key issues of sustainable development and to situate their own career in the light of these challenges.

7.4 To demonstrate humanism, cultural openness and solidarity.

8. To demonstrate independence and be proactive in acquiring new knowledge and the development of new skills to be able to adapt to changing or uncertain situations and to develop positively. They will develop a professional project and the course encompasses continuing development.

8.1 To adapt to a variety of learning situations and to take advantage of them.

8.2 To manage their education and work independently: to set priorities, anticipate and plan all their activities in time.

8.3 To manage stress and frustration in the face of undefined or urgent situations.

8.4 To take control of their educational career with the aim of defining the direction of their professional project.

8.5 To integrate new knowledge and skills independently (including methodological skills) in response to defined situations.

Programme structure

This programme which leads to the title of "Bachelor of Engineering Sciences : Bioengineering", is composed of three years of studies. The training programme comprises different types of course activities: lectures, practical exercises, group work, individual work, tutorials, work experience and, of course, personal study.

Each course title is followed by a number indicating the number of hours the course represents per academic year. This number corresponds to lectures, unless a different teaching method (seminars, exercises) is mentioned in the course title. Where course activities (exercises, laboratory work or practical tasks) accompany one or several lectures, these are characterised by a second volume of hours per year. The course timetable is available at the secretary's office of the Faculty.

The number in brackets next to the number of course hours, relates to the total number of credits attributed to the course activity. This unit is a measure of the student's global workload for one year of studies and corresponds to the unit used by the European Credit Transfer System (ECTS). A full study year includes 60 credits. The sign (~) refers to the description of the training activity, available on the web site, when the credits differ for the study years or for the options of the same programme.

Information on credits not indicated on the study programme can be obtained from the secretary's office of the Faculty.

Principal Subjects

- Mathematics, analysis and data-processing
- Sciences and Engineering of Matter and Processes
- Life Sciences
- Earth Sciences and Ecosystems
- Human Sciences

BIR1BA Programme

Detailed programme by subject

- Mandatory
- Optional
- Not offered in 2026-2027
- Not offered in 2026-2027 but offered the following year
- Offered in 2026-2027 but not the following year
- Not offered in 2026-2027 or the following year
- Activity with requisites
- Open to incoming exchange students
- Not open to incoming exchange students
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

Major (148 credits)

Mathematics, data analysis (27 credits)

				Year 1	2	3
LBIR1110	Introduction to analysis	Emmanuel Hanert	[FR] [q1] [30h+30h] [6 Credits]	x		
LBIR1111	Topics in analysis and in algebra	Marino Gran	[FR] [q2] [30h+30h] [6 Credits]	x		
LBIR1211	Analysis of multivariate functions	Emmanuel Hanert	[FR] [q1] [30h+30h] [5 Credits]		x	
LBIR1212	Probabilities and statistics (I)	Patrick Bogaert	[FR] [q1] [30h+15h] [4 Credits]		x	
LBIR1315	Probability and statistics II	Patrick Bogaert	[FR] [q1] [22.5h+22.5h] [3 Credits]			x
LBIR1351	Introduction to systems analysis	Philippe Baret	[FR] [q1] [10h+20h] [3 Credits]			x

Sciences et ingénierie de la matière et des procédés (46 credits)

LBIR1140	Chimie générale 1	Pierre Delmelle (coord.) Charles-André Fustin	[FR] [q1] [30h+30h] [6 Credits]	x		

				Year 1	2	3
LCHM1141B	Organic chemistry	Benjamin Elias Charles-André Fustin	FR [q2] [30h+30h] [6 Credits]	x		
LBIR1121	General Mechanics	Laurent Delannay Eric Deleersnijder (coord.)	FR [q1] [30h+30h] [6 Credits]	x		
LBIR1122	Thermodynamics and Electromagnetism	Sébastien Lambot	FR [q2] [30h+30h] [6 Credits]	x		
LBIR1221	Wave, optical and modern physics		FR [q2] [30h+30h] [5 Credits]		x	
LCHM1211A	General Chemistry 2 - partim	Yann Garcia Tom Leyssens	FR [q2] [30h+30h] [5 Credits]		x	
LCHM1244	Organic chemistry 2: deepening of basic concepts	Olivier Riant	FR [q1] [30h+22.5h] [4 Credits]		x	
LBIR1325A	Transfer of fluids and energy for Bio-engineer - Partim A	Romain Debroeyer Mathieu Javaux Marnik Vanclooster	FR [q1] [37.5h+27.5h] [5 Credits]			x
LBIR1349	Analytical Chemistry I	Christine Dupont (coord.) Yann Garcia Yann Garcia (compensates Christine Dupont)	FR [q1] [30h+15h] [3 Credits]			x

Life Sciences (28 credits)

LBIR1150	Cell Biology	Patrick Dumont Charles Hachez (coord.)	FR [q1] [30h+15h] [5 Credits]	x		
LBIR1151	Organismal biology	Guillaume Lobet (coord.) Jean-François Rees	FR [q2] [30h+15h] [5 Credits]	x		
LBIR1250	Biochemistry I	Laure-Alix Clerbaux (coord.) Mathias Cobbaut	FR [q1] [30h+15h] [4 Credits]		x	
LBIR1251	Plant physiology	Xavier Draye (coord.) Stanley Lutts	FR [q2] [30h+30h] [5 Credits]		x	
LBIR1252	Animal physiology	Cathy Debier (coord.) Isabelle Donnay	FR [q2] [30h+30h] [5 Credits]		x	
LBIR1350	General Microbiology	Annika Gillis	FR [q2] [37.5h+15h] [4 Credits]			x

Sciences du globe et des écosystèmes (10 credits)

LBIR1130	Introduction to Earth sciences	Pierre Delmelle (coord.) Sophie Opfergelt	FR [q2] [30h+30h] [5 Credits]	x		
LBIR1230	Introduction to biosphere engineering	Philippe Baret Pierre Defourny (coord.) Pierre Delmelle	FR [q2] [60h] [5 Credits]		x	

Développements Durables et Transitions (2 credits)

LBIR1100	Bioscience engineers and transitions towards sustainable development	Yannick Agnan Valentin Couvreur (coord.)	FR [q1] [22.5h+15h] [2 Credits]	x		

Human Sciences (20 credits)

LANGL1881	English : reading and listening comprehension of texts in Bioengineering	Amandine Dumont Ariane Halleux (coord.) Sandrine Meirlaen (coord.) Anne-Julie Toubeau	EN [q1] [30h] [2 Credits]	x		
LANGL1882	English : reading and listening comprehension of texts in Bioengineering	Amandine Dumont Ariane Halleux (coord.) Sandrine Meirlaen (coord.) Anne-Julie Toubeau	EN [q2] [30h] [2 Credits]		x	

				Year 1	2	3
LANGL2480	English Communication Skills for Bioengineers	Ahmed Adrioueche Ariane Halleux Philippe Neyt Katherine Opello Charlotte Peters (coord.) Adrien Pham	EN [q2] [30h] [2 Credits] *> French-friendly*			x
LBIR1260	Principles of economics	Goedele Van den Broeck	EN [q1] [30h+15h] [4 Credits] *> French-friendly*		x	
LBIR1360	Firm management and organisation	François Heroufosse	EN [q1] [30h+7.5h] [3 Credits] *> French-friendly*			x
LBIR1361	Internship (1 month) and report on the work experience training	David Alsteens Charles Bielders Stephan Declerck Eric Gaigneaux (coord.) Annika Gillis Caroline Louis (compensates Laure-Alix Clerbaux)	FR [q1 or q2] [120h] [5 Credits] *> English-friendly*			x
LSC1120A	Philosophy		FR [q1] [30h] [2 Credits]		x	

Projects and Soft skills (15 credits)

LBIR1170	Applied Project in Chemistry	Mathias Cobbaut Christine Dupont (coord.) Thibaut Huybrechts (compensates Christine Dupont)	FR [q2] [30h+60h] [5 Credits]	x		
LBIR1270	Integrated project in environmental diagnosis	Yannick Agnan (coord.) Charlotte Descamps (compensates Anne-Laure Jacquemart)	FR [q1] [30h+30h] [5 Credits] *> English-friendly*		x	
LBIR1271	Integrated project in programming and applied mathematics	Alice Alonso (compensates Marnik Vanclooster) Alice Alonso (compensates Patrick Bogaert) Emmanuel Hanert (coord.)	FR [q2] [30h+30h] [5 Credits]		x	

Choice of an option (32 credits)

Agronomy

LBIR1328A	Climatology and hydrology applied to agronomy and the environment - partim A (2 ECTS)	Charles Bielders Hugues Goosse Marnik Vanclooster	EN [q1] [22.5h] [2 Credits] *> French-friendly*			x
LBIR1336B	Soil science and integrated excursions	Yannick Agnan Richard Lambert Caroline Vincke	FR [q2] [30h+30h] [4 Credits] *> English-friendly*			x
LBIR1352M	General genetics *Le cours magistral étant commun, les partims M et P ne peuvent être cumulés.*	Philippe Baret	FR [q2] [30h+15h] [4 Credits]			x
LBIR1353	Integrative Plant Biology	Guillaume Lobet Stanley Lutts (coord.) Anne-Sophie Mathieu (compensates Muriel Quinet)	FR [q1] [22.5h+15h] [3 Credits]			x
LBIR1354	Biologie des interactions	Anne-Laure Jacquemart (coord.) Anne Legrève Carolin Mayer (compensates Anne-Laure Jacquemart)	FR [q2] [22.5h+15h] [3 Credits]			x
LBIR1355	microbial metabolism and biomolecules synthesis	Laure-Alix Clerbaux Benoît Stenuit (coord.)	FR [q2] [22.5h+15h] [3 Credits]			x
LBIR1362	Environmental Economics	Frédéric Gaspart	EN [q2] [30h+7.5h] [3 Credits]			x

Year
1 2 3

Activités au choix libre
The students have a free choice of courses of 10 credits.It's advisable to choose 3 credits within the other options in order to reach 32 credits of the option.
Minimum 10 credit(s)

Chemistry

LBIR1340	Basis of quantum mechanics and spectroscopy	Eric Gaigneaux (coord.) Xavier Gonze	FR [q2] [22.5h+22.5h] [3 Credits] *> English-friendly*			x
LBIR1341	Laboratories, seminars and integrated practice of analytical chemistry	Arnaud Detaille (compensates Christine Dupont) Thibaut Huybrechts (compensates Christine Dupont)	FR [q1] [30h+45h] [5 Credits]			x
LBIR1342	Analyse de composés organiques dans des matrices complexes	Sonia Collin	FR [q2] [30h+45h] [5 Credits]			x
LBIR1346	Surface and colloid chemistry	Christine Dupont (coord.) Aurélien vander Straeten (compensates Christine Dupont)	FR [q2] [30h] [3 Credits]			x
LBIR1355	microbial metabolism and biomolecules synthesis	Laure-Alix Clerbaux Benoît Stenuit (coord.)	FR [q2] [22.5h+15h] [3 Credits]			x

One course to be chosen amongst the follwong two:

LBIR1325B	Transfer of fluids and energy for Bio-engineer - Partim B : Case studies	Romain Debroeyer Mathieu Javaux Marnik Vanclooster	FR [q2] [5h+25h] [2 Credits]			x
LBIR1352P	General genetics *Le cours magistral étant commun, les partims M et P du cours LBIR1352 ne peuvent être cumulés.*	Philippe Baret	FR [q2] [30h+7.5h] [3 Credits]			x

Activités au choix libre
The students have a free choice of courses of 10 credits.It's advisable to choose 3 credits within the other options in order to reach 32 credits of the option.
Minimum 10 credit(s)

Environment

LBIR1325B	Transfer of fluids and energy for Bio-engineer - Partim B : Case studies	Romain Debroeyer Mathieu Javaux Marnik Vanclooster	FR [q2] [5h+25h] [2 Credits]			x
LBIR1328	Climatology and hydrology applied to agronomy and the environment	Charles Bielders (coord.) Hugues Goosse Marnik Vanclooster	EN [q1] [45h+22.5h] [6 Credits] *> French-friendly*			x
LBIR1334	Introduction to forest science	Quentin Ponette (coord.) Caroline Vincke	FR [q2] [22.5h+15h] [3 Credits] *> English-friendly*			x
LBIR1336	Soil science and integrated excursions	Yannick Agnan (coord.) Richard Lambert Caroline Vincke	FR [q2] [30h+37.5h] [5 Credits] *> English-friendly*			x
LBIR1354	Biologie des interactions	Anne-Laure Jacquemart (coord.) Anne Legrève Carolin Mayer (compensates Anne-Laure Jacquemart)	FR [q2] [22.5h+15h] [3 Credits]			x
LBIR1362	Environmental Economics	Frédéric Gaspart	FR [q2] [30h+7.5h] [3 Credits]			x

Activités au choix libre
The students have a free choice of courses of 10 credits.It's advisable to choose 3 credits within the other options in order to reach 32 credits of the option.
Minimum 10 credit(s)

Course prerequisites

The **table** below lists the activities (course units, or CUs) for which there are one or more prerequisites within the programme, i.e. the programme CU for which the learning outcomes must be certified and the corresponding credits awarded by the jury before registering for that CU.

These activities are also identified **in the detailed programme** : their title is followed by a yellow square.

Prerequisites and student's annual programme

As the prerequisite is for CU registration puposes only, there are no prerequisites within a programme year. Prerequisites are defined between CUs of different years and therefore influence the order in which the student will be able to register for the programme's CUs.

In addition, when the jury validates a student's individual programme at the beginning of the year, it ensures its coherence, meaning that it may:

- require the student to combine registration in two separate CUs which it considers necessary from a pedagogical point of view.
- transform a prerequisite into a corequisite if the student is in the final year of a degree course.

For more information, please consult the Academic Regulations and Procedures .

Prerequisities list

LANGL1882 "English : reading and listening comprehension of texts in Bioengineering" has prerequisite(s) LANGL1881

- LANGL1881 - English : reading and listening comprehension of texts in Bioengineering

LANGL2480 "English Communication Skills for Bioengineers" has prerequisite(s) LANGL1882

- LANGL1882 - English : reading and listening comprehension of texts in Bioengineering

LBIR1211 "Analyse de fonctions à plusieurs variables" has prerequisite(s) LBIR1110 ET LBIR1111

- LBIR1110 - Introduction to analysis
- LBIR1111 - Topics in analysis and in algebra

LBIR1212 "Probabilités et statistiques (I)" has prerequisite(s) LBIR1111

- LBIR1111 - Topics in analysis and in algebra

LBIR1221 "Onde, optique et physique moderne" has prerequisite(s) LBIR1121 ET LBIR1122

- LBIR1121 - General Mechanics
- LBIR1122 - Thermodynamics and Electromagnetism

LBIR1250 "Biochimie I : biochimie structurale, enzymologie et métabolisme énergétique" has prerequisite(s) LBIR1150 ET LCHM1141B

- LBIR1150 - Cell Biology
- LCHM1141B - Organic chemistry

LBIR1251 "Biologie et Physiologie végétale" has prerequisite(s) LBIR1150 ET LBIR1151

- LBIR1150 - Cell Biology
- LBIR1151 - Organismal biology

LBIR1252 "Physiologie animale" has prerequisite(s) LBIR1150 ET LCHM1141B

- LBIR1150 - Cell Biology
- LCHM1141B - Organic chemistry

LBIR1260 "Principles of economics" has prerequisite(s) LBIR1110

- LBIR1110 - Introduction to analysis

LBIR1270 "Projet intégré en diagnostic environnemental" has prerequisite(s) LBIR1130 ET LBIR1170

- LBIR1130 - Introduction to Earth sciences
- LBIR1170 - Applied Project in Chemistry

LBIR1271 "Projet intégré en informatique et mathématiques appliquées" has prerequisite(s) LBIR1110 ET LBIR1111

- LBIR1110 - Introduction to analysis
- LBIR1111 - Topics in analysis and in algebra

LBIR1315 "Probabilités et statistique II" has prerequisite(s) LBIR1212

- LBIR1212 - Probabilities and statistics (I)

LBIR1325A "Transferts de fluide et d'énergie pour les bioingénieurs - Partim A" has prerequisite(s) LBIR1122 ET LBIR1211

- LBIR1122 - Thermodynamics and Electromagnetism
- LBIR1211 - Analysis of multivariate functions

LBIR1325B "Transferts de fluide et d'énergie pour les bioingénieurs - Partim B : Case studies" has prerequisite(s) LBIR1122 ET LBIR1211

- LBIR1122 - Thermodynamics and Electromagnetism
- LBIR1211 - Analysis of multivariate functions

LBIR1328 "Climatology and hydrology applied to agronomy and the environment" has prerequisite(s) LBIR1221

- LBIR1221 - Wave, optical and modern physics

LBIR1328A "Climatology and hydrology applied to agronomy and the environment - partim A (2 ECTS)" has prerequisite(s) LBIR1221

- LBIR1221 - Wave, optical and modern physics

LBIR1336 "Sciences du sol et excursions intégrées" has prerequisite(s) LBIR1130 ET LBIR1270

- LBIR1130 - Introduction to Earth sciences
- LBIR1270 - Integrated project in environmental diagnosis

LBIR1340 "Fondements de mécanique quantique et de spectroscopie" has prerequisite(s) LBIR1211 ET LBIR1221

- LBIR1211 - Analysis of multivariate functions
- LBIR1221 - Wave, optical and modern physics

LBIR1341 "Laboratoires, séminaires et exercices intégrés de chimie analytique" has prerequisite(s) LBIR1212 ET LCHM1211A

- LBIR1212 - Probabilities and statistics (I)
- LCHM1211A - General Chemistry 2 - partim

LBIR1342 "Analyse de composés organiques dans des matrices complexes" has prerequisite(s) LCHM1141B

- LCHM1141B - Organic chemistry

LBIR1346 "Chimie des colloïdes et des surfaces (I)" has prerequisite(s) LCHM1211A

- LCHM1211A - General Chemistry 2 - partim

LBIR1349 "Chimie analytique I" has prerequisite(s) LCHM1211A ET LBIR1221

- LCHM1211A - General Chemistry 2 - partim
- LBIR1221 - Wave, optical and modern physics

LBIR1350 "Microbiologie générale" has prerequisite(s) LBIR1250

- LBIR1250 - Biochemistry I

LBIR1351 "Introduction à l'analyse des systèmes" has prerequisite(s) LBIR1271

- LBIR1271 - Integrated project in programming and applied mathematics

LBIR1352M "Génétique générale - Cours magistral pour bioingénieurs et TP "Mouches"" has prerequisite(s) LBIR1150

- LBIR1150 - Cell Biology

LBIR1352P "Génétique générale - Cours magistral pour bioingénieurs et TP "PCR "" has prerequisite(s) LBIR1150

- LBIR1150 - Cell Biology

LBIR1353 "Biologie intégrative" has prerequisite(s) LBIR1251

- LBIR1251 - Plant physiology

LBIR1354 "Biologie des interactions" has prerequisite(s) LBIR1270

- LBIR1270 - Integrated project in environmental diagnosis

LBIR1355 "Métabolisme microbien et synthèse de biomolécules" has prerequisite(s) LBIR1250

- LBIR1250 - Biochemistry I

LBIR1360 "Firm management and organisation" has prerequisite(s) LBIR1260

- LBIR1260 - Principles of economics

LBIR1362 "Economie des ressources naturelles et de l'environnement" has prerequisite(s) LBIR1260

- LBIR1260 - Principles of economics

LCHM1211A "Chimie générale 2 - partim" has prerequisite(s) LBIR1140 ET LBIR1170

- LBIR1140 - Chimie générale 1
- LBIR1170 - Applied Project in Chemistry

LCHM1244 "Chimie organique 2 : approfondissement des concepts de base" has prerequisite(s) LCHM1141B

- LCHM1141B - Organic chemistry

The programme's courses and learning outcomes

For each UCLouvain training programme, a reference framework of learning outcomes specifies the the skills expected of every graduate on completion of the programme. Course unit descriptions specify targeted learning outcomes, as well as the unit's contribution to reference framework of learning outcomes.

Detailed programme per annual block

BIR1BA - 1ST ANNUAL UNIT

- Mandatory
- Optional
- Not offered in 2026-2027
- Not offered in 2026-2027 but offered the following year
- Offered in 2026-2027 but not the following year
- Not offered in 2026-2027 or the following year
- Activity with requisites
- Open to incoming exchange students
- Not open to incoming exchange students
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

Major

Mathematics, data analysis

LBIR1110	Introduction to analysis	Emmanuel Hanert	FR [q1] [30h +30h] [6 Credits]
LBIR1111	Topics in analysis and in algebra	Marino Gran	FR [q2] [30h +30h] [6 Credits]

Sciences et ingénierie de la matière et des procédés

LBIR1140	Chimie générale 1	Pierre Delmelle (coord.) Charles-André Fustin	FR [q1] [30h +30h] [6 Credits]
LCHM1141B	Organic chemistry	Benjamin Elias Charles-André Fustin	FR [q2] [30h +30h] [6 Credits]
LBIR1121	General Mechanics	Laurent Delannay Eric Deleersnijder (coord.)	FR [q1] [30h +30h] [6 Credits]
LBIR1122	Thermodynamics and Electromagnetism	Sébastien Lambot	FR [q2] [30h +30h] [6 Credits]

Life Sciences

LBIR1150	Cell Biology	Patrick Dumont Charles Hachez (coord.)	FR [q1] [30h +15h] [5 Credits]
LBIR1151	Organismal biology	Guillaume Lobet (coord.) Jean-François Rees	FR [q2] [30h +15h] [5 Credits]

Sciences du globe et des écosystèmes

LBIR1130	Introduction to Earth sciences	Pierre Delmelle (coord.) Sophie Opfergelt	FR [q2] [30h +30h] [5 Credits]

Développements Durables et Transitions

LBIR1100	Bioscience engineers and transitions towards sustainable development	Yannick Agnan Valentin Couvreur (coord.)	FR [q1] [22.5h +15h] [2 Credits]

Human Sciences

LANGL1881	English : reading and listening comprehension of texts in Bioengineering	Amandine Dumont Ariane Halleux (coord.) Sandrine Meirlaen (coord.) Anne-Julie Toubeau	FR [q1] [30h] [2 Credits]

Projects and Soft skills

LBIR1170	Applied Project in Chemistry	Mathias Cobbaut Christine Dupont (coord.) Thibaut Huybrechts (compensates Christine Dupont)	FR [q2] [30h +60h] [5 Credits]

BIR1BA - 2ND ANNUAL UNIT

- Mandatory
- Optional
- Not offered in 2026-2027
- Not offered in 2026-2027 but offered the following year
- Offered in 2026-2027 but not the following year
- Not offered in 2026-2027 or the following year
- Activity with requisites
- Open to incoming exchange students
- Not open to incoming exchange students
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

Major

Mathematics, data analysis

LBIR1211	Analysis of multivariate functions	Emmanuel Hanert	FR [q1] [30h +30h] [5 Credits]
LBIR1212	Probabilities and statistics (I)	Patrick Bogaert	FR [q1] [30h +15h] [4 Credits]

Sciences et ingénierie de la matière et des procédés

LBIR1221	Wave, optical and modern physics		FR [q2] [30h +30h] [5 Credits]
LCHM1211A	General Chemistry 2 - partim	Yann Garcia Tom Leyssens	FR [q2] [30h +30h] [5 Credits]
LCHM1244	Organic chemistry 2: deepening of basic concepts	Olivier Riant	FR [q1] [30h +22.5h] [4 Credits]

Life Sciences

LBIR1250	Biochemistry I	Laure-Alix Clerbaux (coord.) Mathias Cobbaut	FR [q1] [30h +15h] [4 Credits]
LBIR1251	Plant physiology	Xavier Draye (coord.) Stanley Lutts	FR [q2] [30h +30h] [5 Credits]
LBIR1252	Animal physiology	Cathy Debier (coord.) Isabelle Donnay	FR [q2] [30h +30h] [5 Credits]

Sciences du globe et des écosystèmes

LBIR1230	Introduction to biosphere engineering	Philippe Baret Pierre Defourny (coord.) Pierre Delmelle	FR [q2] [60h] [5 Credits]

Human Sciences

LANGL1882	English : reading and listening comprehension of texts in Bioengineering	Amandine Dumont Ariane Halleux (coord.) Sandrine Meirlaen (coord.) Anne-Julie Toubeau	EN [q2] [30h] [2 Credits]

LBIR1260	Principles of economics	Goedele Van den Broeck	EN [q1] [30h +15h] [4 Credits] > *French-friendly*
LSC1120A	Philosophy		FR [q1] [30h] [2 Credits]

Projects and Soft skills

LBIR1270	Integrated project in environmental diagnosis	Yannick Agnan (coord.) Charlotte Descamps (compensates Anne-Laure Jacquemart)	FR [q1] [30h +30h] [5 Credits] > *English-friendly*
LBIR1271	Integrated project in programming and applied mathematics	Alice Alonso (compensates Marnik Vanclooster) Alice Alonso (compensates Patrick Bogaert) Emmanuel Hanert (coord.)	FR [q2] [30h +30h] [5 Credits]

BIR1BA - 3RD ANNUAL UNIT

- Mandatory
- Optional
- Not offered in 2026-2027
- Not offered in 2026-2027 but offered the following year
- Offered in 2026-2027 but not the following year
- Not offered in 2026-2027 or the following year
- Activity with requisites
- Open to incoming exchange students
- Not open to incoming exchange students
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

Major

Mathematics, data analysis

LBIR1315	Probability and statistics II	Patrick Bogaert	FR [q1] [22.5h +22.5h] [3 Credits]
LBIR1351	Introduction to systems analysis	Philippe Baret	FR [q1] [10h +20h] [3 Credits]

Sciences et ingénierie de la matière et des procédés

LBIR1325A	Transfer of fluids and energy for Bio-engineer - Partim A	Romain Debroeyer Mathieu Javaux Marnik Vanclooster	FR [q1] [37.5h +27.5h] [5 Credits]
LBIR1349	Analytical Chemistry I	Christine Dupont (coord.) Yann Garcia Yann Garcia (compensates Christine Dupont)	FR [q1] [30h +15h] [3 Credits]

Life Sciences

LBIR1350	General Microbiology	Annika Gillis	FR [q2] [37.5h +15h] [4 Credits]

Human Sciences

LANGL2480	English Communication Skills for Bioengineers	Ahmed Adrioueche Ariane Halleux Philippe Neyt Katherine Opello Charlotte Peters (coord.) Adrien Pham	EN [q2] [30h] [2 Credits] *> French-friendly*
LBIR1360	Firm management and organisation	François Heroufosse	EN [q1] [30h +7.5h] [3 Credits] *> French-friendly*
LBIR1361	Internship (1 month) and report on the work experience training	David Alsteens Charles Bielders Stephan Declerck Eric Gaigneaux (coord.) Annika Gillis Caroline Louis (compensates Laure-Alix Clerbaux)	FR [q1 or q2] [120h] [5 Credits] *> English-friendly*

Choice of an option

Agronomy

LBIR1328A	Climatology and hydrology applied to agronomy and the environment - partim A (2 ECTS)	Charles Bielders Hugues Goosse Marnik Vanclooster	FSA [q1] [22.5h] [2 Credits] *> French-friendly*
LBIR1336B	Soil science and integrated excursions	Yannick Agnan Richard Lambert Caroline Vincke	FSA [q2] [30h +30h] [4 Credits] *> English-friendly*
LBIR1352M	General genetics *Le cours magistral étant commun, les partims M et P ne peuvent être cumulés.*	Philippe Baret	FSA [q2] [30h +15h] [4 Credits]
LBIR1353	Integrative Plant Biology	Guillaume Lobet Stanley Lutts (coord.) Anne-Sophie Mathieu (compensates Muriel Quinet)	FSA [q1] [22.5h +15h] [3 Credits]
LBIR1354	Biologie des interactions	Anne-Laure Jacquemart (coord.) Anne Legrève Carolin Mayer (compensates Anne-Laure Jacquemart)	FSA [q2] [22.5h +15h] [3 Credits]
LBIR1355	microbial metabolism and biomolecules synthesis	Laure-Alix Clerbaux Benoît Stenuit (coord.)	FSA [q2] [22.5h +15h] [3 Credits]
LBIR1362	Environmental Economics	Frédéric Gaspart	FSA [q2] [30h +7.5h] [3 Credits]

Activités au choix libre
The students have a free choice of courses of 10 credits.It's advisable to choose 3 credits within the other options in order to reach 32 credits of the option.
Minimum 10 credit(s)

Chemistry

LBIR1340	Basis of quantum mechanics and spectroscopy	Eric Gaigneaux (coord.) Xavier Gonze	FSA [q2] [22.5h +22.5h] [3 Credits] *> English-friendly*
LBIR1341	Laboratories, seminars and integrated practice of analytical chemistry	Arnaud Detaille (compensates Christine Dupont) Thibaut Huybrechts (compensates Christine Dupont)	FSA [q1] [30h +45h] [5 Credits]
LBIR1342	Analyse de composés organiques dans des matrices complexes	Sonia Collin	FSA [q2] [30h +45h] [5 Credits]
LBIR1346	Surface and colloid chemistry	Christine Dupont (coord.) Aurélien vander Straeten (compensates Christine Dupont)	FSA [q2] [30h] [3 Credits]
LBIR1355	microbial metabolism and biomolecules synthesis	Laure-Alix Clerbaux Benoît Stenuit (coord.)	FSA [q2] [22.5h +15h] [3 Credits]

One course to be chosen amongst the follwong two:

LBIR1325B	Transfer of fluids and energy for Bio-engineer - Partim B : Case studies	Romain Debroeyer Mathieu Javaux Marnik Vanclooster	FSA [q2] [5h +25h] [2 Credits]
LBIR1352P	General genetics *Le cours magistral étant commun, les partims M et P du cours LBIR1352 ne peuvent être cumulés.*	Philippe Baret	FSA [q2] [30h +7.5h] [3 Credits]

Activités au choix libre
The students have a free choice of courses of 10 credits.It's advisable to choose 3 credits within the other options in order to reach 32 credits of the option.
Minimum 10 credit(s)

Environment

LBIR1325B	Transfer of fluids and energy for Bio-engineer - Partim B : Case studies	Romain Debroeyer Mathieu Javaux Marnik Vanclooster	FR [q2] [5h +25h] [2 Credits]
LBIR1328	Climatology and hydrology applied to agronomy and the environment	Charles Bielders (coord.) Hugues Goosse Marnik Vanclooster	EN [q1] [45h +22.5h] [6 Credits] > *French-friendly*
LBIR1334	Introduction to forest science	Quentin Ponette (coord.) Caroline Vincke	FR [q2] [22.5h +15h] [3 Credits] > *English-friendly*
LBIR1336	Soil science and integrated excursions	Yannick Agnan (coord.) Richard Lambert Caroline Vincke	FR [q2] [30h +37.5h] [5 Credits] > *English-friendly*
LBIR1354	Biologie des interactions	Anne-Laure Jacquemart (coord.) Anne Legrève Carolin Mayer (compensates Anne-Laure Jacquemart)	FR [q2] [22.5h +15h] [3 Credits]
LBIR1362	Environmental Economics	Frédéric Gaspart	FR [q2] [30h +7.5h] [3 Credits]

Activités au choix libre
The students have a free choice of courses of 10 credits.It's advisable to choose 3 credits within the other options in order to reach 32 credits of the option.
Minimum 10 credit(s)

BIR1BA - Information

Access Requirements

Decree of 7 November 2013 defining the landscape of higher education and the academic organization of studies.
The admission requirements must be met prior to enrolment in the University.

In the event of the divergence between the different linguistic versions of the present conditions, the French version shall prevail.

SUMMARY

- General access requirements
- Specific access requirements
- Access based on validation of professional experience
- Special requirements to access some programmes

General access requirements

Except as otherwise provided by other specific legal provisions, admission to undergraduate courses leading to the award of a Bachelor's degree will be granted to students with one of the following qualifications :

1. A Certificate of Upper Secondary Education issued during or after the 1993-1994 academic year by an establishment offering full-time secondary education or an adult education centre in the French Community of Belgium and, as the case may be, approved if it was issued by an educational institution before 1 January 2008 or affixed with the seal of the French Community if it was issued after this date, or an equivalent certificate awarded by the Examination Board of the French Community during or after 1994;

2. A Certificate of Upper Secondary Education issued no later than the end of the 1992-1993 academic year, along with official documentation attesting to the student's ability to pursue higher education for students applying for a full-length undergraduate degree programme;

3. A diploma awarded by a higher education institution within the French Community that confers an academic degree issued under the above-mentioned Decree, or a diploma awarded by a university or institution dispensing full-time higher education in accordance with earlier legislation;

4. A higher education certificate or diploma awarded by an Adult Education institution;

5. A pass certificate for one of the entrance examinations organized by higher education institutions or by an examination board of the French Community; this document gives admission to studies in the sectors, fields or programmes indicated therein;

6. A diploma, certificate of studies or other qualification similar to those mentioned above, issued by the Flemish Community of Belgium, the German Community of Belgium or the Royal Military Academy;

7. A diploma, certificate of studies or other qualification obtained abroad and deemed equivalent to the first four mentioned above by virtue of a law, decree, European directive or international convention;

Note:

Requests for equivalence must be submitted to the Equivalence department (Service des équivalences) of the Ministry of Higher Education and Scientific Research of the French Community of Belgium in compliance with the official deadline.

The following two qualifications are automatically deemed equivalent to the Certificate of Upper Secondary Education (Certificat d'enseignement secondaire supérieur – CESS):

- European Baccalaureate issued by the Board of Governors of a European School,

- International Baccalaureate issued by the International Baccalaureate Office in Geneva.

8. Official documentation attesting to a student's ability to pursue higher education (diplôme d'aptitude à accéder à l'enseignement supérieur - DAES), issued by the Examination Board of the French Community;

9. An equivalence decision regarding the level of studies, issued pursuant to Article 93 of the present Decree.

Specific access requirements

- Access to bachelor programmes for candidates of nationality outside the European Union who are not assimilated to Belgian nationals is subject to the following criteria:
  - not have obtained a secondary education diploma for more than 3 years maximum. Example: for an admission application for the academic year 2026-2027, you must have obtained your diploma during the academic years 2023-2024, 2024-2025 ou 2025-2026. In the French Community of Belgium, the academic year runs from September 14 to September 13
  - not already hold an undergraduate degree
- Candidates, whatever their nationality, with a secondary school diploma **from a country outside the European Union** , must have obtained an average of 13/20 minimum or, failing that, have obtained this average, have passed one year of study in Belgium (for example special Maths / sciences). A non-successful year will not be taken into consideration.

- For any secondary school diploma **from a European Union country** , the admission request must contain the equivalence of your diploma or, at the very least, proof of the filing of the equivalence request with the Wallonia-Brussels Federation (French Community of Belgium). For any information relating to obtaining an equivalence, please refer to the following site.
- For any secondary school diploma **from a country outside the European Union** , the admission application must contain the equivalence of your diploma issued by the Wallonia-Brussels Federation (French Community of Belgium). If you have a restrictive equivalence for the programme of your choice, in addition of it, you **must** have either the DAES or a certificate of successful completion of the examination giving access to 1 st cycle studies when you submit your application

Access based on validation of professional experience

Admission to undergraduate studies on the basis of accreditation of knowledge and skills obtained through professional or personal experience (Accreditation of Prior Experience)

Subject to the general requirements laid down by the authorities of the higher education institution, with the aim of admission to the undergraduate programme, the examination boards accredit the knowledge and skills that students have obtained through their professional or personal experience.

This experience must correspond to at least five years of documented activity, with years spent in higher education being partially taken into account: 60 credits are deemed equivalent to one year of experience, with a maximum of two years being counted. At the end of an assessment procedure organized by the authorities of the higher education institution, the Examination Board will decide whether a student has sufficient skills and knowledge to successfully pursue undergraduate studies.

After this assessment, the Examination Board will determine the additional courses and possible exemptions constituting the supplementary requirements for the student's admission.

Special requirements to access some programmes

- Admission to **undergraduate studies in engineering: civil engineering and architect**

  Pass certificate for the special entrance examination for undergraduate studies in engineering: civil engineering and architect .

  Admission to these courses is always subject to students passing the special entrance examination. Contact the faculty office for the programme content and the examination arrangements.
- Admission to **undergraduate studies in veterinary medicine**

  Admission to undergraduate studies in veterinary medicine is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses (non-residents) .
- Admission to **undergraduate studies in physiotherapy and rehabilitation**

  Admission to undergraduate studies in physiotherapy and rehabilitation is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses (non-residents).
- Admission to **undergraduate studies in psychology and education: speech and language therapy**

  Admission to undergraduate studies in psychology and education: speech and language therapy is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses (non-residents) .
- Admission to **undergraduate studies in medicine and dental science**

  Admission to undergraduate studies in medecine and dental science is governed by the Decree of 16 June 2006 regulating the number of students in certain higher education undergraduate courses (non-residents).

  Note: students wishing to enrol for a **Bachelor's degree in Medicine** or a **Bachelor's degree in dental science** must first sit an aptitude test (fr) .
- Access to **Bachelor of Science in Business Engineering**

  The Bachelor of Science in Business Engineering is a joint program organised by KU Leuven and UCLouvain Saint-Louis Bruxelles. In order to register, all candidate must first submit an application via the KU Leuven admission platform . The conditions of access to this programme are specific.
- Access to **Bachelor in Droit – Rechten – Laws**

  The Bachelor in Droit – Rechten – Laws is a joint program organised by KU Leuven and UCLouvain Saint-Louis Bruxelles. In order to register, all candidate must first submit an application via the KU Leuven admission platform . The conditions of access to this programme are specific.

Teaching method

La structure générale de la formation (programmes de bachelier en Sciences de l'ingénieur, orientation bioingénieur, et de master bioingénieur) concrétise les concepts d'orientation, de choix progressifs et d'individualisation des *cursi* :

Dans le premier cycle (bachelier) :

- programme commun à SC et AGRO en 1ère année (BIR11BA),
- programme unique en 2ème année (BIR12BA) pour l'ensemble des étudiants BIR,
- programme différencié avec 30 crédits d'option en 3ème année (BIR **C** 13BA, BIR **A** 13BA, BIR **E** 13BA) : ce programme différencié propose trois mineures d'approfondissement : chimie (BIRC), agronomie (BIRA), environnement (BIRE).

L'interdisciplinarité et l'approche intégrée sont des dimensions essentielles dans la formation des **bioingénieurs en sciences agronomiques** . Ces dimensions sont soutenues par :

- l'offre d'enseignements organisés par d'autres Facultés ;
- le regroupement d'activités de formation : exercices intégrés, projet intégré, analyses de situation réelles, mises en situation ;
- la perception, l'analyse, le diagnostic et la proposition de cahiers de charges (gestion, conception de nouveaux procédésâ€¦) intégrant divers types d'outils (observations de terrain, analyses de laboratoire, bases de données, biométrie, modélisation, simulationâ€¦) et diverses échelles d'espace (du moléculaire à la parcelle et à l'exploitation, de la région agricole au sous-continent, et au-delà) et de temps ;
- l'implication d'équipes d'enseignants de compétences variées et complémentaires ;
- la formation et la stimulation au travail en équipe d'étudiants intégrant le développement d'une véritable capacité autonome de travail intellectuel.

La formation générale comprend différents types de prestations : cours magistraux, exercices pratiques, travaux de groupe, travaux personnels, monitorats, stage et bien entendu, étude individuelle.

Chaque intitulé de cours est suivi d'un nombre qui indique le nombre d'heures de ce cours par année académique. Ce nombre correspond à des cours magistraux sauf si l'intitulé mentionne un autre mode d'enseignement (séminaires, exercices...). Lorsque des activités de formations (exercices, laboratoires, travaux pratiques...) accompagnent un ou plusieurs cours magistraux, elles sont caractérisées par un second volume horaire annuel. Une fiche descriptive de l'activité de formation est disponible sur le site web quand les crédits sont différents pour les années d'études ou les options d'un même programme.

L'horaire de cours est disponible au secrétariat de la Faculté et via le portail.

Evaluation

The evaluation methods comply with the Academic regulations and procedures . More detailed explanation of the modalities specific to each learning unit are available on their description sheets under the heading "Learning outcomes evaluation method".

Différentes modalités sont mises en oeuvre pour l'évaluation des connaissances et des compétences acquises au cours de la formation; elles sont adaptées aux types de prestations : évaluation continue notamment pour les exercices pratiques, évaluation des travaux personnels et de groupe, évaluation globale (écrite et/ou orale) durant les sessions d'examens.

Possible trainings at the end of the programme

Positioning of the programme within the University curses

Successful completion of the1st year allows direct access not only to the second year in Bioengineering, but also to the second year of the bachelor's programmes in Biological, Chemical or Geographical Sciences.

Upon successful completion of his bachelor's studies, the student will be entitled access to three master's programmes, in the context of the second cycle of studies of the Faculty of Bioengineering, Agronomy and Environment :

Bioengineering : Agronomical Sciences, Bioengineering : Chemistry and Bio-industries Bioengineering : Sciences and Technologies of the Environment.

Other studies accessible upon completion of the programme

In addition, the student will also be able to access other master's programmes organised in other UCL faculties or in other universities in Belgium or abroad, subject to possible prerequisites specified for the programme in question.

Contacts

Curriculum Management

Faculty

Structure entity	SST/AGRO
Denomination	Faculty of bioscience engineering (AGRO)
Sector	Sciences and Technology (SST)
Acronym	AGRO
Postal address	Croix du Sud 2 - bte L7.05.01 1348 Louvain-la-Neuve Tel: +32 (0) 10 47 37 19 - Fax: +32 (0) 10 47 47 45
Website	http://www.uclouvain.be/agro

Mandate(s)

- Dean : Christine Dupont
- Administrative director : Carole Dekelver

Commission(s) of programme

- Commission de programme - Master Bioingénieur-Sciences agronomiques (BIRA)
- Commission de programme - Master Bioingénieur-Chimie et bioindustries (BIRC)
- Commission de programme - Master Bioingénieur-Sciences & technologies de l'environnement (BIRE)
- Commission de programme - Bachelier en sciences de l'ingénieur, orientation bioingénieur (CBIR)
- Commission de programme interfacultaire en Sciences et gestion de l'environnement (ENVI)
- Fermes universitaires de Louvain (FERM)

Academic supervisor: yannick.agnan@uclouvain.be

Jury

- Président de jury: president-jury-agro@uclouvain.be
- Secrétaire de jury BIR11BA: sebastien.lambot@uclouvain.be
- Secrétaire de jury BIR1BA: sebastien.lambot@uclouvain.be

Useful Contact(s)

- Conseiller aux études: conseiller-agro@uclouvain.be