

BIRE2M - Introduction

Introduction

2.3 To master the operational use of specialised tools in engineering sciences (e.g.: systems analysis, statistical analysis, programming, modelling, etc.)(1) :

- Measurement techniques
- Environmental statistical data analysis
- Specific tools in relation to the choice of specialisation

2.4 To activate and apply their knowledge of engineering with a critical mind and using a quantitative approach to tackle a complex problem in the environmental field by incorporating processes at different scales ranging from the mineral and living organism scale, to landscape and biosphere.

2.5 To locate and understand how companies and organisations operate, including the role of the different players, their financial and social realities and responsibilities and the challenges and constraints which characterise their environment.

[1] The tools are explained on the basis of the radioscopia of the programme and courses.

3. To design and execute a research project, implementing an analytical scientific and, if applicable, systematic approach, to further understanding of an original research problem in their field of specialisation, 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 below. 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 summarise the state of knowledge on a complex research problem which relates to their choice of specialisation: to research information, to select and validate its reliability based on the nature of the source of the information and comparing several sources.

5.9 To lead a team (demonstrate leadership): to motivate team members, to develop a collaborative climate, to guide them to cooperate in the achievement of a common objective, to manage conflict.



PROFESSIONAL FOCUS [30.0]

x

- Mandatory
- ⊗ Optional
- △ Not offered in 2023-2024
- ⊙ Not offered in 2023-2024 but offered the following year
- ⊕ Offered in 2023-2024 but not the following year
- △ ⊕ Not offered in 2023-2024 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...)

Year

1 2

o Content:

o Finalité spécialisée

○ LBIRE2102	Applied geomatics	Pierre Defourny	FR [q1] [30h+22.5h] [4 Credits] 🌐 > English-friendly	X
○ LBIRE2104	Applied soil sciences	Yannick Agnan (coord.) Pierre Delmelle (coord.) Hugues Titeux (compensates) Pierre Delmelle	FR [q1] [22.5h+22.5h] [4 Credits] 🌐 > English-friendly	X
○ LBIRE2105	Assessment of water - soil - air quality	Yannick Agnan (coord.) Philippe Maetz Xavier Rollin	FR [q1] [30h+0h] [3 Credits] 🌐	X
○ LBIRE2205A	Decision tools and project management - Decision tools	Raphaël Amory Frédéric Gaspart	EN [q1] [22.5h+7.5h] [3 Credits] 🌐 > French-friendly	X

o Disciplinary project (10 credits)


○ LBIRE2130	Environmental Impact Assessment : project and introduction to database management	Yannick Agnan Charles Bielders (coord.) Patrick Bogaert Pierre Defourny Guillaume Lobet Quentin Ponette	FR [q2] [47.5h+30h] [7 Credits] 🌐	X
○ LBIRE2131	Environmental Impact Assessment : diagnosis and indicators	Charles Bielders (coord.) Pierre Defourny	FR [q2] [22.5h] [3 Credits]	

o Courses to be chosen for 4 credits minimum (4 credits)

⌘ LBRES2105	Soil erosion and conservation	Charles Bielders	EN [q2] [22.5h+22.5h] [4 Credits] 
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OPTION 7E - WATER AND SOIL RESSOURCES

OPTION 7E- WATER AND SOIL RESOURCES [23.0]

- Mandatory
 - ✘ Optional
 - △ Not offered in 2023-2024
 - ⊖ Not offered in 2023-2024 but offered the following year
 - ⊕ Offered in 2023-2024 but not the following year
 - △ ⊕ Not offered in 2023-2024 or the following year
 - Activity with requisites
 - 
-

Year

1 2

<p>○ LBIRE2233</p>	<p>Integrated project in water and soil resources management</p>	<p>Charles Bielders (coord.) Mathieu Javaux Marnik Vanclooster</p>	<p>EN [q1] [50h+10h] [6 Credits] </p>	<p>x</p>
<p>○ LBRES2206</p>	<p>Advanced Hydrology for Engineers</p>	<p>Quentin Goor (compensates Mathieu Javaux) Mathieu Javaux (coord.)</p>	<p>EN [q1] [22.5h+15h] [3 Credits]  > <i>French-friendly</i></p>	<p>x</p>

OPTION'S COMPLEMENT - SUSTAINABILITY ENGINEERING [20.0]

- Mandatory
 - ✘ Optional
 - △
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Supplementary classes

To access this Master, students must have a good command of certain subjects. If this is not the case, students must take supplementary classes chosen by the faculty to satisfy course prerequisites.

- Mandatory
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- ⊙ Not offered in 2023-2024 but offered the following year
- ⊕ Offered in 2023-2024 but not the following year
- △ ⊕ Not offered in 2023-2024 or the following year
- Activity with requisites
- 🌐 Open to incoming exchange students
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- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

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

○ Cours passerelle pour le master en bioingénieur, orientation chimie gestion des forêts et espaces

Course prerequisites

There are no prerequisites between course units (CUs) for this programme, i.e. the programme activity (course unit, CU) whose learning outcomes are to be certified and the corresponding credits awarded by the jury before registration in another CU.

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.

BIRE2M - Information

Access Requirements

Master course admission requirements are defined by the French Community of Belgium Decree of 7 November 2013 defining the higher education landscape and the academic organisation of courses.

General and specific admission requirements for this programme must be satisfied at the time of enrolling at the university.

Unless explicitly mentioned, the bachelor's, master's and licentiate degrees listed in this table or on this page are to be understood as those issued by an institution of the French, Flemish or German-speaking Community, or by the Royal Military Academy.

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

(max.60 crédits). Prendre obligatoirement contact avec le [Conseiller aux études](#).

Access based on application

Non university Bachelors

> Find out more about [links](#) to the university

Diploma	Access	Remarks
BA en agronomie, orientation agro-industries et biotechnologies - crédits supplémentaires entre 45 et 60	Les enseignements supplémentaires éventuels peuvent être consultés dans le module complémentaire .	Type court
BA en agronomie, orientation agronomie des régions chaudes - crédits supplémentaires entre 45 et 60		
BA en agronomie, orientation environnement - crédits supplémentaires entre 45 et 60		
BA en agronomie, orientation forêt et nature - crédits supplémentaires entre 45 et 60		
BA en agronomie, orientation techniques et gestion agricoles - crédits supplémentaires entre 45 et 60		
BA en agronomie, orientation techniques et gestion horticolas - crédits supplémentaires entre 45 et 60		
BA en agronomie, orientation technologie animalière - crédits supplémentaires entre 45 et 60		
BA en chimie, orientation biochimie - crédits supplémentaires entre 45 et 60		
BA en chimie, orientation biotechnologie - crédits supplémentaires entre 45 et 60		
BA en chimie, orientation chimie appliquée - crédits supplémentaires entre 45 et 60		
BA en chimie, orientation environnement - crédits supplémentaires entre 45 et 60		

Holders of a 2nd cycle University degree

Diploma	Special Requirements	Access	Remarks
"Licenciés"			
Masters			
Master Bioingénieur (autre finalité que sciences et technologies de l'environnement)		Access based on application	
Master en sciences biologiques			
Master en Biochimie et biologie moléculaire et cellulaire			
Master en Biologie des organismes et écologie			
Master en sciences chimiques			
Master en Sciences géographiques			
		Access based on application	
		Access based on application	

Access based on validation of professional experience

> It is possible, under certain conditions, to use one's personal and professional experience to enter a university course without having the required qualifications. However, validation of prior experience does not automatically apply to all courses. Find out more about [Validation of priori experience](#).

Access based on application

Access based on application : access may be granted either directly or on the condition of completing additional courses of a maximum of 60 ECTS credits, or refused.

Admission and Enrolment Procedures for general registration

