



# Master in Biology of Organisms and Ecology

## Focus Research

The 2024-2025 programme is subject to change. It is provided for information purposes only.

### Programme mnemonic

MA-BIOR

> Focus *Research* : M-BIORA

### Exists also in

> Focus *Teaching - 1st year* : M-BIORD

> Focus *Erasmus Mundus Joint Master Degree in Tropical Biodiversity and Ecosystems - TROPIMUNDO* : M-BIORE

### Studies level

Master 120 credits

### Learning language

english and french

### Schedule

office hours

### Studies category / subcategory

Sciences and technics / Agronomy and bioengineering

### Campus

Plaine and Solbosch

## Succeed in your studies

### Choose

The information and guidance counsellors at the InfOR-études [<https://www.ulb.be/en/studies-info-desk-1>] service will help you choose your studies throughout the year.

### Succeed

Take part in preparatory courses [<https://www.ulb.be/en/studies-info-desk-1>] or get help to succeed [<https://www.ulb.be/en/studies-info-desk-1>], before or during your studies.

### Get help

Apply for financial aid, look for accommodation or a student job, get support [<https://www.ulb.be/fr/aides-services-et-accompagnement/aid-services-and-support-1>] for your specific needs.

### Jury President

Yves ROISIN

### Jury Secretary

Thomas DROUET DE LA THIBAUDERIE

### Bloc 1 | M-BIORA | MA-BIOR

#### Tronc commun

BING-F4002

[Acquisition et analyse de données](#) | Marius GILBERT (Coordinator) and Marc DUFRENE

5 credits [lecture: 24h, tutorial classes: 36h]  first term  French

BIOL-F446

[Comportement animal](#) | Claire DETRAIN (Coordinator), Serge ARON, Jean-Christophe DE BISEAU D'HAUTEVILLE and Yves ROISIN

15 credits [lecture: 72h, practical work: 48h, seminars: 30h, field trips: 30h]  first term  French

BIOL-F448

[Bioéthique et droit de la conservation](#) | Bruno DANIS (Coordinator) and Martine VERCAUTEREN

5 credits [lecture: 20h, tutorial classes: 40h]  first term  French

*An option chosen from (the same in bloc 1 and bloc 2):*

M-BIORA-G

[Option générale](#) > *page*

M-BIORA-E

[Option Biodiversité et environnements tropicaux \(BET\)](#) > *page*

## Bloc 2 | M-BIORA | MA-BIOR

### Tronc commun

MEMO-F536

**Mémoire** | Yves ROISIN (Coordinator)

🕒 30 credits [mfe/tfe: 360h] 📅 first and second terms

*An option chosen from (the same in bloc 1 and bloc 2) :*

M-BIORA-G

[Option générale](#) > *page*

M-BIORA-E

[Option Biodiversité et environnements tropicaux \(BET\)](#) > *page*

# Master in Biology of Organisms and Ecology

Options | MA-BIOR

Option générale | M-BIORA-G

## Bloc 1

### Cours obligatoires

- BIOL-F418 (option) **Projet de mémoire** | Farid DAHDOUH-GUEBAS (Coordinator)  
 ⌚ 5 credits [lecture: 16h, project: 24h] 📅 first and second terms 🗨️ French
- BIOL-F449 (option) **Biodiversité et conservation - écosystèmes terrestres et aquatiques** | Bruno DANIS (Coordinator), Farid DAHDOUH-GUEBAS, Thomas DROUET DE LA THIBAUDERIE, Philippe DUBOIS and Pierre Jacques MEERTS  
 ⌚ 15 credits [lecture: 42h, practical work: 35h, field trips: 103h] 📅 second term 🗨️ French
- BIOL-F450 (option) **Evolution et écologie - comprendre la diversité phénotypique et génétique** | Patrick MARDULYN (Coordinator), Jean-François FLOT, Denis FOURNIER, Olivier HARDY, Nausicaa NORET, Karine VAN DONINCK and Martine VERCAUTEREN  
 ⌚ 15 credits [lecture: 60h, practical work: 90h] 📅 second term 🗨️ French

## Bloc 2

### Cours spécifiques à la finalité approfondie : cours optionnels pour se préparer à la carrière professionnelle

#### Cours spécifiques à la finalité

outre les cours ci-dessous, l'étudiant peut également choisir parmi les cours d'autres masters ou bacheliers à l'ULB, sous réserve d'approbation par le jury

*A total of 30 credits chosen from the following*

- BINF-F402 (option/optional) **Genomics, Transcriptomics and Epigenomics** | Jean-François FLOT (Coordinator) and Matthieu DEFRANCE  
 ⌚ 5 credits [lecture: 48h, project: 30h] 📅 first term 🗨️ English
- BING-F4007 (option/optional) **Compléments de biochimie et de microbiologie** | Sigrid FLAHAUT (Coordinator) and Nausicaa NORET  
 ⌚ 5 credits [lecture: 48h, practical work: 12h] 📅 second term 🗨️ French
- BING-F410 (option/optional) **Ecosystèmes aquatiques: fonctionnement et paramètres de qualité de l'eau** | Nathalie GYPENS (Coordinator) and Isabelle GEORGE  
 ⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨️ French
- BING-F535 (option/optional) **Séminaires d'analyse de données** | Marius GILBERT (Coordinator)  
 ⌚ 5 credits [tutorial classes: 12h, project: 48h] 📅 second term 🗨️ French
- BING-Y001 (option/optional) **Tracer Isotope Biochemistry** | Marc ELSKENS (Coordinator) and Steven Goderis  
 ⌚ 6 credits [lecture: 24h] 📅 first term 🗨️ English
- BIOL-F1715 (option/optional) **Biological invasions and management** | Iris Stiers (Coordinator)  
 ⌚ 3 credits [lecture: 16h, practical work: 6h, project: 6h] 📅 first term 🗨️ English
- BIOL-F4001 (option/optional) **Behavioural Ecology in natural and man-made environments** | Claire DETRAIN (Coordinator)  
 ⌚ 5 credits [lecture: 36h, tutorial classes: 12h] 📅 first term 🗨️ English
- BIOL-F4002 (option/optional) **Pédologie et écosystèmes** | Thomas DROUET DE LA THIBAUDERIE (Coordinator)  
 ⌚ 5 credits [lecture: 36h] 📅 first term 🗨️ French
- BIOL-F4005 (option/optional) **Social-ecological systems** | Farid DAHDOUH-GUEBAS (Coordinator)  
 ⌚ 5 credits [lecture: 30h, tutorial classes: 6h, field trips: 12h] 📅 first term 🗨️ English

BIOL-F412 (option/optional)	<b>Biotechnologies animales et végétales</b>   Nathalie VERBRUGGEN (Coordinator) and Benoît VANHOLLEBEKE ⌚ 5 credits [lecture: 36h, project: 24h] 📅 second term 🗨️ French
BIOL-F441 (option/optional)	<b>Ecotoxicologie</b>   Philippe DUBOIS (Coordinator) ⌚ 5 credits [lecture: 18h] 📅 second term 🗨️ French
BIOL-F443 (option/optional)	<b>Plant responses to environmental stress</b>   Nathalie VERBRUGGEN (Coordinator) ⌚ 5 credits [lecture: 24h, project: 24h] 📅 first term 🗨️ English
BIOL-F444 (option/optional)	<b>Plant-soil interactions</b>   Pierre Jacques MEERTS (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 12h] 📅 first term 🗨️ English Ce cours ne sera pas donné en 2023-2024.
BIOL-F535 (option/optional)	<b>Cours ou stage d'été hors ULB</b> ⌚ 5 credits [practical work: 60h] 📅 third term 🗨️ French
BIOL-F539 (option/optional)	<b>Evolution et conservation de la diversité végétale : de la morphologie aux gènes</b>   Timothée Le Pechon (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 18h, practical work: 18h, field trips: 12h] 📅 first term 🗨️ French
BIOL-Y001 (option/optional)	<b>Conservation genetics</b>   Marc KOCHZIUS (Coordinator) ⌚ 3 credits [lecture: 24h, tutorial classes: 12h] 📅 first term 🗨️ English
BIOL-Y400 (option/optional)	📅 unknown term
SOCA-D443 (option/optional)	<b>Anthropologie du développement</b>   Véronique JOIRIS (Coordinator) ⌚ 5 credits [lecture: 24h] 📅 second term 🗨️ French
SOCA-D4996 (option/optional)	<b>Anthropologie de l'environnement</b>   Véronique JOIRIS (Coordinator) ⌚ 5 credits [lecture: 24h] 📅 first term 🗨️ French
STAG-F034 (option/optional)	<b>Stage professionnel</b>   Denis FOURNIER (Coordinator) ⌚ 15 credits [work placement: 180h] 📅 academic year 🗨️ French
TRAN-F201 (option/optional)	<b>Introduction aux enjeux de la durabilité</b>   Wouter ACHTEN (Coordinator) and Chiara ARMENI ⌚ 5 credits [lecture: 24h, project: 24h] 📅 second term 🗨️ French

## Option Biodiversité et environnements tropicaux (BET) | M-BIORA-E

### Bloc 1

### Cours obligatoires

BIOL-F4005 (option)	<b>Social-ecological systems</b>   Farid DAHDOUH-GUEBAS (Coordinator) ⌚ 5 credits [lecture: 30h, tutorial classes: 6h, field trips: 12h] 📅 first term 🗨️ English
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*An alternative chosen from the three following*

### Proposition 1 - Université de Dschang - Cameroun

#### Module à suivre durant le 2e quadrimestre

BIOL-Y059 (option)	<b>SIG et Phytogéographie</b> ⌚ 5 credits [lecture: 24h, tutorial classes: 10h, practical work: 25h] 📅 second term
BIOL-Y241 (option)	<b>Elaboration de Projet d'école de terrain</b> ⌚ 3 credits 📅 second term 🗨️ French
BIOL-Y242 (option)	<b>Mise en œuvre de Projet d'école de terrain</b> ⌚ 6 credits 📅 second term 🗨️ French
BIOL-Y243 (option)	<b>Rapport d'Ecole de terrain</b> ⌚ 6 credits 📅 second term 🗨️ French



## Un total de 10 crédits à choisir parmi

*A total of ten credits chosen from the following*

- |                                |  |
|--------------------------------|--|
| BIOL-Y022<br>(option/optional) | <b>Systématique et phylogénie</b><br>⌚ 5 credits [lecture: 30h, practical work: 20h] 📅 academic year 🗨 French                    |
| BIOL-Y027<br>(option/optional) | <b>Écosystèmes terrestres</b><br>⌚ 5 credits [lecture: 20h, tutorial classes: 10h, practical work: 15h] 📅 academic year 🗨 French |
| BIOL-Y028<br>(option/optional) | <b>Ecosystèmes aquatiques</b><br>⌚ 5 credits [lecture: 30h, practical work: 15h] 📅 academic year 🗨 French                        |
| BIOL-Y034<br>(option/optional) | <b>Ethnobotanique</b><br>⌚ 5 credits [lecture: 20h, practical work: 20h] 📅 academic year 🗨 French                                |

or

## Proposition 2 - module à suivre durant le deuxième quadrimestre

- |                                |   |
|--------------------------------|---|
| BIOL-Y174<br>(option/optional) | <b>Geomatics</b><br>⌚ 3 credits [lecture: 21h, tutorial classes: 33h, field trips: 24h, project: 6h] 📅 second term 🗨 English  |
| BIOL-Y184<br>(option/optional) | <b>Tropical biodiversity and ecosystems field school: Sri Lankan terrestrial and aquatic ecosystems</b><br>⌚ 15 credits [lecture: 21h, tutorial classes: 7h, field trips: 336h, project: 84h] 📅 second term 🗨 English |

*A total of 12 credits chosen from the following*

- |                                |  |
|--------------------------------|--|
| BIOL-Y214<br>(option/optional) | <b>Biodiversity of wetlands in Sri Lanka, conservation and policies</b><br>⌚ 3 credits [lecture: 12h] 📅 second term 🗨 French |
| BIOL-Y215<br>(option/optional) | <b>Wood science and technology</b><br>⌚ 3 credits [lecture: 12h] 📅 second term 🗨 French                                      |
| BIOL-Y216<br>(option/optional) | <b>Ecotoxicology and Environmental science</b><br>⌚ 3 credits [lecture: 12h] 📅 second term 🗨 French                          |
| BIOL-Y217<br>(option/optional) | <b>Coastal zone management</b><br>⌚ 3 credits [lecture: 12h] 📅 second term 🗨 French  |
| BIOL-Y218<br>(option/optional) | <b>Plant physiology, biochemistry and plant breeding techniques</b><br>⌚ 3 credits [lecture: 12h] 📅 second term 🗨 French     |
| BIOL-Y219<br>(option/optional) | <b>Indigenous knowledge on plant science</b><br>⌚ 3 credits [lecture: 12h] 📅 second term 🗨 French                            |
| BIOL-Y220<br>(option/optional) | <b>Forest ecology and management</b><br>⌚ 3 credits [lecture: 12h] 📅 second term 🗨 French                                    |
| BIOL-Y221<br>(option/optional) | <b>Microbial ecology</b><br>⌚ 3 credits [lecture: 12h] 📅 second term 🗨 French  |
| BIOL-Y222<br>(option/optional) | <b>Ecology of tropical marine systems</b><br>⌚ 3 credits [lecture: 12h] 📅 second term 🗨 French                               |

or

## Proposition 3 - Universiti Malaysia Terengganu

Module à suivre durant le deuxième quadrimestre

- BIOL-Y114 (option/optional) **Tropical biodiversity and ecosystems field school: Malaysian mangrove ecosystems**  
⌚ 15 credits [lecture: 20h, tutorial classes: 18h, field trips: 128h, project: 32h] 📅 second term
- BIOL-Y115 (option/optional) **Remote Sensing and GIS**  
⌚ 3 credits [lecture: 21h, tutorial classes: 33h, field trips: 24h, project: 6h] 📅 second term
- BIOL-Y117 (option/optional) **Estuarine and Mangrove Ecology**  
⌚ 6 credits [lecture: 28h, tutorial classes: 12h, field trips: 24h, project: 6h] 📅 second term
- BIOL-Y118 (option/optional) **Conservation of Marine Endangered Species**  
⌚ 3 credits [lecture: 24h, tutorial classes: 4h, field trips: 36h, project: 6h] 📅 second term

*A total of three credits chosen from the following*

- BIOL-Y116 (option/optional) **Tropical oceanography**  
⌚ 3 credits [lecture: 24h, tutorial classes: 4h, field trips: 24h, project: 18h] 📅 second term
- BIOL-Y223 (option/optional) **Lake and terrestrial ECOLOGY**  
⌚ 3 credits [lecture: 24h, tutorial classes: 4h, field trips: 24h, project: 18h] 📅 second term 🗨️ French

## Bloc 2

### Cours obligatoires de l'option

- BIOL-F418 (option) **Projet de mémoire** | Farid DAHDOUH-GUEBAS (Coordinator)  
⌚ 5 credits [lecture: 16h, project: 24h] 📅 first and second terms 🗨️ French

### Cours spécifiques à la finalité approfondie : cours optionnels pour se préparer à la carrière professionnelle

#### Cours spécifiques à la finalité

outre les cours ci-dessous, l'étudiant peut également choisir parmi les cours d'autres masters ou bacheliers à l'ULB, sous réserve d'approbation par le jury

*25 to 30 credits chosen from the following*

- BINF-F402 (option/optional) **Genomics, Transcriptomics and Epigenomics** | Jean-François FLOT (Coordinator) and Matthieu DEFRANCE  
⌚ 5 credits [lecture: 48h, project: 30h] 📅 first term 🗨️ English
- BING-F4007 (option/optional) **Compléments de biochimie et de microbiologie** | Sigrid FLAHAUT (Coordinator) and Nausicaa NORET  
⌚ 5 credits [lecture: 48h, practical work: 12h] 📅 second term 🗨️ French
- BING-F410 (option/optional) **Ecosystèmes aquatiques: fonctionnement et paramètres de qualité de l'eau** | Nathalie GYPENS (Coordinator) and Isabelle GEORGE  
⌚ 5 credits [lecture: 24h, practical work: 36h] 📅 second term 🗨️ French
- BING-F535 (option/optional) **Séminaires d'analyse de données** | Marius GILBERT (Coordinator)  
⌚ 5 credits [tutorial classes: 12h, project: 48h] 📅 second term 🗨️ French
- BING-Y001 (option/optional) **Tracer Isotope Biochemistry** | Marc ELSKENS (Coordinator) and Steven Goderis  
⌚ 6 credits [lecture: 24h] 📅 first term 🗨️ English
- BIOL-F1715 (option/optional) **Biological invasions and management** | Iris Stiers (Coordinator)  
⌚ 3 credits [lecture: 16h, practical work: 6h, project: 6h] 📅 first term 🗨️ English



BIOL-F4001 <small>(option/optional)</small>	<b>Behavioural Ecology in natural and man-made environments</b>   Claire DETRAIN (Coordinator) ⌚ 5 credits [lecture: 36h, tutorial classes: 12h] 📅 first term 🗨 English
BIOL-F4002 <small>(option/optional)</small>	<b>Pédologie et écosystèmes</b>   Thomas DROUET DE LA THIBAUDERIE (Coordinator) ⌚ 5 credits [lecture: 36h] 📅 first term 🗨 French
BIOL-F4005 <small>(option/optional)</small>	<b>Social-ecological systems</b>   Farid DAHDOUH-GUEBAS (Coordinator) ⌚ 5 credits [lecture: 30h, tutorial classes: 6h, field trips: 12h] 📅 first term 🗨 English
BIOL-F412 <small>(option/optional)</small>	<b>Biotechnologies animales et végétales</b>   Nathalie VERBRUGGEN (Coordinator) and Benoît VANHOLLEBEKE ⌚ 5 credits [lecture: 36h, project: 24h] 📅 second term 🗨 French
BIOL-F441 <small>(option/optional)</small>	<b>Ecotoxicologie</b>   Philippe DUBOIS (Coordinator) ⌚ 5 credits [lecture: 18h] 📅 second term 🗨 French
BIOL-F443 <small>(option/optional)</small>	<b>Plant responses to environmental stress</b>   Nathalie VERBRUGGEN (Coordinator) ⌚ 5 credits [lecture: 24h, project: 24h] 📅 first term 🗨 English
BIOL-F444 <small>(option/optional)</small>	<b>Plant-soil interactions</b>   Pierre Jacques MEERTS (Coordinator) ⌚ 5 credits [lecture: 24h, tutorial classes: 12h] 📅 first term 🗨 English Ce cours ne sera pas donné en 2023-2024.
BIOL-F535 <small>(option/optional)</small>	<b>Cours ou stage d'été hors ULB</b> ⌚ 5 credits [practical work: 60h] 📅 third term 🗨 French
BIOL-F539 <small>(option/optional)</small>	<b>Evolution et conservation de la diversité végétale : de la morphologie aux gènes</b>   Timothée Le Pechon (Coordinator) ⌚ 5 credits [lecture: 12h, tutorial classes: 18h, practical work: 18h, field trips: 12h] 📅 first term 🗨 French
BIOL-Y001 <small>(option/optional)</small>	<b>Conservation genetics</b>   Marc KOCHZIUS (Coordinator) ⌚ 3 credits [lecture: 24h, tutorial classes: 12h] 📅 first term 🗨 English
BIOL-Y400 <small>(option/optional)</small>	<b>Freshwater ecology</b>   Iris Stiers (Coordinator) ⌚ 6 credits [lecture: 24h, practical work: 12h] 📅 first term 🗨 English Ce cours sera dispensé par l'Université d'Anvers.
SOCA-D443 <small>(option/optional)</small>	<b>Anthropologie du développement</b>   Véronique JOIRIS (Coordinator) ⌚ 5 credits [lecture: 24h] 📅 second term 🗨 French
SOCA-D4996 <small>(option/optional)</small>	<b>Anthropologie de l'environnement</b>   Véronique JOIRIS (Coordinator) ⌚ 5 credits [lecture: 24h] 📅 first term 🗨 French
STAG-F034 <small>(option/optional)</small>	<b>Stage professionnel</b>   Denis FOURNIER (Coordinator) ⌚ 15 credits [work placement: 180h] 📅 academic year 🗨 French
TRAN-F201 <small>(option/optional)</small>	<b>Introduction aux enjeux de la durabilité</b>   Wouter ACHTEN (Coordinator) and Chiara ARMENI ⌚ 5 credits [lecture: 24h, project: 24h] 📅 second term 🗨 French

