

Master in Biology of Organisms and Ecology

Focus Erasmus Mundus Joint Master Degree in Tropical Biodiversity and Ecosystems - TROPIMUNDO

Bloc 1 | M-BIORE | MA-BIOR

Compulsory Block 1

Choose 1 module in mobility during the second semester either at Universidad de Antioquia (Medellín, Colombia), at Université des Antilles (Point-à-Pitre, Guadeloupe), at Université de Dschang (Dschang, Cameroon), at Université d'Antananarivo (Antananarivo, Madagascar), at Université de la Réunion (Saint-Denis, La Réunion), at University of Ruhuna (Wellamadama, Sri Lanka), at Universiti Malaysia Terengganu (Kuala Terengganu, Malaysia) or at Université de la Nouvelle Calédonie (Nouméa, New Caledonia)

N.B. Provided agreement by the inter-university jury the student can choose optionnal courses outside the proposed modules, but accepting the risk of overlapping schedules. A climate-oriented course is obligatory either in Block 1 (GEOG-F400) or Block 2 (BIOL-Y044). For languages of instruction and course details, please consult <https://www.tropimundo.eu>

BIOL-Y119 **Thesis proposal**
3 credits [project: 30h] second term English

BIOL-Y174 **Geomatics**
3 credits [lecture: 21h, tutorial classes: 33h, field trips: 24h, project: 6h] second term English

BIOL-Y175 **Skills and qualifications in tropical biodiversity**
9 credits [lecture: 100h, practical work: 100h] second term English

Module to choose

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An alternative chosen from the 11 following

At the Unibersidad ng Pilipinas (Quezon City, Philippines) (UP)

or

At the Université de la Nouvelle Calédonie (UNC)

BIOL-Y412 (optional) **Tropical biodiversity and ecosystems field school: biodiversity and habitats of the South-Pacific archipelago of New-Caledonia**
15 credits [lecture: 30h, field trips: 80h, project: 20h] second term French

or

At the Universiti Malaysia Terengganu (UMT)

BIOL-Y114 (optional) **Tropical biodiversity and ecosystems field school: Malaysian mangrove ecosystems**
15 credits [lecture: 20h, tutorial classes: 18h, field trips: 128h, project: 32h] second term

or

At University of Ruhuna (RUH)

BIOL-Y190
(optional)

[Tropical biodiversity and ecosystems field school: Sri Lankan terrestrial and aquatic ecosystems](#)

🕒 15 credits [lecture: 20h, tutorial classes: 15h, field trips: 120h, project: 30h] 📅 second term 🗨 English

or

At Université de La Réunion (UNIRé)

BIOL-Y191
(optional)

[Tropical biodiversity and ecosystems field school: Tropical forest ecosystems of Reunion Island and the South West Indian Ocean Region](#)

🕒 15 credits [lecture: 20h, tutorial classes: 18h, field trips: 128h, project: 32h] 📅 second term 🗨 English

or

At Université d'Antananarivo (UNIVANTA)

or

At Technical University of Mombasa (TUM)

BIOL-Y062
(optional)

[Tropical biodiversity and ecosystems field school: East-African ecosystems](#)

🕒 15 credits [lecture: 20h, tutorial classes: 18h, field trips: 128h, project: 32h] 📅 second term 🗨 French

or

At the Université de Dschang (Dschang, Cameroon) (UDSch)

BIOL-Y020
(optional)

[Tropical biodiversity and ecosystems field school: Central African terrestrial ecosystems](#)

🕒 15 credits [lecture: 20h, tutorial classes: 18h, field trips: 128h, project: 32h] 📅 second term 🗨 English

or

At the Université Cheikh Anta Diop de Dakar (Dakar, Senegal) (UCAD)

BIOL-Y413
(optional)

[Tropical biodiversity and ecosystems field school: West-African forest, savanna, wetland and other S](#)

🕒 15 credits [field trips: 180h] 📅 second term 🗨 French

or

At Université des Antilles (UdA)

BIOL-Y159
(optional)

[Tropical biodiversity and ecosystems field school: Caribbean insular ecosystems](#)

🕒 15 credits [lecture: 20h, tutorial classes: 18h, field trips: 128h, project: 32h] 📅 second term 🗨 English

or

At Universidad de Antioquia (UDEA)

BIOL-Y410
(optional)

[Tropical biodiversity and ecosystems field school: from montane to coastal ecosystems and landscapes](#)

🕒 15 credits [lecture: 20h, tutorial classes: 18h, field trips: 128h, project: 32h] 📅 second term 🗨 French

At ULB and VUB

At ULB

BIOL-F4005

[Social-ecological systems](#) | Farid DAHDOUH-GUEBAS (Coordinator)

🕒 6 credits [lecture: 30h, tutorial classes: 6h, field trips: 12h] 📅 first term 🗨 English



BIOL-F537 **Scientific presentation skills and career planning** | Farid DAHDOUH-GUEBAS (Coordinator)
⌚ 3 credits [lecture: 18h, project: 24h] 📅 first term 🗨 English

At ULB or VUB

One course chosen from the following

BING-F4002 **Acquisition et analyse de données** | Marius GILBERT (Coordinator) and Marc DUFRENE
(optional) ⌚ 5 credits [lecture: 24h, tutorial classes: 36h] 📅 first term 🗨 French

BIOL-Y007 **Analysis of Biological data**
(optional) ⌚ 6 credits [lecture: 13h, tutorial classes: 39h] 📅 first term

Optional

At least 15 or 16 ECTS to be chosen from the ULB and/or VUB module below

15 to 16 credits chosen from the following

At ULB

BINF-F402 **Genomics, Transcriptomics and Epigenomics** | Jean-François FLOT (Coordinator) and Matthieu DEFRANCE
(optional) ⌚ 5 credits [lecture: 48h, project: 30h] 📅 first term 🗨 English

BIOL-F1715 **Biological invasions and management** | Iris Stiers (Coordinator)
(optional) ⌚ 3 credits [lecture: 16h, practical work: 6h, project: 6h] 📅 first term 🗨 English

BIOL-F4001 **Behavioural Ecology in natural and man-made environments** | Claire DETRAIN (Coordinator)
(optional) ⌚ 5 credits [lecture: 36h, tutorial classes: 12h] 📅 first term 🗨 English

BIOL-F4002 **Pédologie et écosystèmes** | Thomas DROUET DE LA THIBAUDERIE (Coordinator)
(optional) ⌚ 5 credits [lecture: 36h] 📅 first term 🗨 French

BIOL-F417 **Marine ecology** | Anton Van De Putte (Coordinator) and Marc KOCHZIUS
(optional) ⌚ 5 credits [lecture: 18h, practical work: 9h, field trips: 9h] 📅 first term 🗨 English

BIOL-F443 **Plant responses to environmental stress** | Nathalie VERBRUGGEN (Coordinator)
(optional) ⌚ 5 credits [lecture: 24h, project: 24h] 📅 first term 🗨 English

BIOL-F444 **Plant-soil interactions** | Pierre Jacques MEERTS (Coordinator)
(optional) ⌚ 5 credits [lecture: 24h, tutorial classes: 12h] 📅 first term 🗨 English
Ce cours ne sera pas donné en 2023-2024.

BIOL-F448 **Bioéthique et droit de la conservation** | Bruno DANIS (Coordinator) and Martine VERCAUTEREN
(optional) ⌚ 5 credits [lecture: 20h, tutorial classes: 40h] 📅 first term 🗨 French

BIOL-F455 **Biology of animal societies** | Yves ROISIN (Coordinator)
(optional) ⌚ 5 credits [lecture: 36h, practical work: 12h] 📅 first term 🗨 English

BIOL-F535 **Cours ou stage d'été hors ULB**
(optional) ⌚ 5 credits [practical work: 60h] 📅 third term 🗨 French

ENVI-F409 **Economie écologique** | Thomas BAULER (Coordinator)
(optional) ⌚ 5 credits [lecture: 24h, practical work: 12h] 📅 second term 🗨 French

ENVI-F452 **Environmental impact analysis and management** | Wouter ACHTEN (Coordinator)
(optional) ⌚ 5 credits [lecture: 24h, practical work: 12h, project: 24h] 📅 first term 🗨 English/French

GEOG-F400 **The Earth system and its interactions** | François FRIPIAT (Coordinator)
(optional) ⌚ 5 credits [lecture: 36h] 📅 first term 🗨 English

STAG-F034 **Stage professionnel** | Denis FOURNIER (Coordinator)
(optional) ⌚ 15 credits [work placement: 180h] 📅 academic year 🗨 French



At VUB

- BING-Y001
(optional) **Tracer Isotope Biochemistry** | Marc ELSKENS (Coordinator) and Steven Goderis
⌚ 6 credits [lecture: 24h] 📅 first term 🗨 English
- BIOL-Y001
(optional) **Conservation genetics** | Marc KOCHZIUS (Coordinator)
⌚ 3 credits [lecture: 24h, tutorial classes: 12h] 📅 first term 🗨 English
- BIOL-Y060
(optional) **Terrestrial ecology**
⌚ 6 credits [lecture: 12h] 📅 first term 🗨 French
- BIOL-Y061
(optional) **Agroecology**
⌚ 3 credits [lecture: 12h] 📅 first term 🗨 French
- BIOL-Y069
(optional) **Governance and policy in development and cooperation** | Jean Hugé (Coordinator)
⌚ 3 credits [lecture: 12h, tutorial classes: 12h] 📅 first term 🗨 English
- BIOL-Y147
(optional) **Global change biology**
⌚ 6 credits [lecture: 13h, practical work: 6h, field trips: 7h] 📅 first term 🗨 English
- BIOL-Y197
(optional) **Toxins in amphibians and Reptiles**
⌚ 3 credits [lecture: 13h, project: 39h] 📅 first term 🗨 French
- BIOL-Y400
(optional) **Freshwater ecology** | Iris Stiers (Coordinator)
⌚ 6 credits [lecture: 24h, practical work: 12h] 📅 first term 🗨 English
Ce cours sera dispensé par l'Université d'Anvers.
- STAG-Y002
(optional) **Professional internship** | Luc LEYNS
⌚ 12 credits [work placement: 190h] 📅 academic year 🗨 French
- STAG-Y003
(optional) **Professional internship** | Luc LEYNS
⌚ 6 credits [work placement: 114h] 📅 academic year 🗨 French

Master in Biology of Organisms and Ecology

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Bloc 2 | M-BIORE | MA-BIOR

Cours obligatoires

MEMO-F538 **Mémoire** | Farid DAHDOUH-GUEBAS (Coordinator)
 30 credits [mfe/tfe: 360h] first and second terms

Optionnal

N.B. Provided agreement by the inter-university jury the student can choose optional courses outside the proposed modules, but accepting the risk of overlapping schedules. A climate-oriented course is obligatory either in Bloc-1 (GEOG-F-400) or Bloc-2 (BIOL-Y-044). For languages of instruction and course details, please consult: <https://www.tropimundo.eu>

At the Sorbonne Université (Paris, France) and the Muséum National d'Histoire Naturelle (Paris, France)

A total of 30 credits chosen from the following

Recommended

- BIOL-Y071 (optional) **Diversité et histoire des lignées chlorophylliennes (DIVEG)**
6 credits [lecture: 40h, tutorial classes: 20h] first term French
- BIOL-Y072 (optional) **Floristique Tropicale (FLORATROP)**
3 credits [lecture: 20h, tutorial classes: 6h, project: 4h] first term French
- BIOL-Y073 (optional) **Xylogie-paléoxylogie: systématique et paléoécologie**
3 credits [lecture: 10h, tutorial classes: 15h, practical work: 15h] first term French
- BIOL-Y076 (optional) **Initiation aux techniques avancées de collecte et d'inventaire systématique**
3 credits [field trips: 32h, project: 4h] first term French
- BIOL-Y110 (optional) **Ecologie tropicale (ECOT)**
6 credits [lecture: 48h, tutorial classes: 12h, project: 10h] first term

Other courses to choose

- BIOL-Y010 (optional) **Climat et biotope (c/o Grandes Questions Environnementales)**
3 credits [lecture: 24h, project: 6h] first term French
- BIOL-Y039 (optional) **Sciences de la nature et de l'homme: histoire des idées**
6 credits [lecture: 30h] first term French
- BIOL-Y040 (optional) **Droit du patrimoine naturel in situ et ex situ**
3 credits [lecture: 22h, tutorial classes: 8h] first term French
- BIOL-Y074 (optional) **Biodiversity informatics**
6 credits [lecture: 15h, tutorial classes: 15h, project: 30h] first term English
- BIOL-Y075 (optional) **Exploration et description de la biodiversité**
3 credits [lecture: 22h, project: 8h] first term French
- BIOL-Y077 (optional) **Taxinomie et nomenclature**
3 credits [lecture: 30h] first term French

BIOL-Y079 (optional)	Formalisation des connaissances en systématique et paléobiodiversité ⌚ 3 credits [lecture: 10h, tutorial classes: 15h, project: 5h] 📅 first term 🗨 French
BIOL-Y080 (optional)	Morphologie cladistique informatisée ⌚ 3 credits [lecture: 16h, tutorial classes: 8h, project: 4h] 📅 first term 🗨 French
BIOL-Y081 (optional)	Modélisation des formes et analyse des données morphométriques ⌚ 3 credits [lecture: 10h, tutorial classes: 10h, project: 10h] 📅 first term
BIOL-Y083 (optional)	Enjeux patrimoniaux, économiques et scientifiques de la connaissance des espèces ⌚ 3 credits [lecture: 30h] 📅 first term 🗨 French
BIOL-Y084 (optional)	Partenaires institutionnels et associatifs de la gestion et de la conservation de la biodiversité ⌚ 3 credits [lecture: 30h] 📅 first term
BIOL-Y111 (optional)	Phylogénie moléculaire ⌚ 6 credits [lecture: 60h] 📅 first term 🗨 French
BIOL-Y148 (optional)	Biogéographie Paléobiogéographie ⌚ 3 credits [lecture: 30h] 📅 first term 🗨 French
BIOL-Y149 (optional)	Enjeux professionnels en Ingénierie écologique et biologie de la conservation ⌚ 3 credits [lecture: 30h] 📅 first term 🗨 French
BIOL-Y150 (optional)	Gestion des populations et écosystèmes ⌚ 6 credits [lecture: 60h] 📅 first term 🗨 French
BIOL-Y151 (optional)	Origines de la vie ⌚ 3 credits [lecture: 30h] 📅 first term 🗨 French
BIOL-Y152 (optional)	Structure et histoire paléontologique des grands clades de Métazoaires ⌚ 3 credits [lecture: 30h] 📅 first term 🗨 French
BIOL-Y153 (optional)	Phylogénie des Métazoaires: évolution des plans d'organisation ⌚ 3 credits [lecture: 10h, tutorial classes: 12h, project: 9h] 📅 first term 🗨 French
BIOL-Y154 (optional)	Les crises biologiques: comprendre le passé et l'actuel ⌚ 3 credits [lecture: 30h] 📅 first term 🗨 French
BIOL-Y155 (optional)	Écologie moléculaire et génétique évolutive des organismes marins ⌚ 6 credits [lecture: 30h, practical work: 40h] 📅 first term 🗨 French
BIOL-Y172 (optional)	Anatomie comparée ⌚ 3 credits [lecture: 24h, tutorial classes: 6h] 📅 first term 🗨 French
BIOL-Y178 (optional)	Tropical biodiversity and ecosystems field school: Malagasy forest ecosystems ⌚ 3 credits [lecture: 30h] 📅 first term
BIOL-Y179 (optional)	Fonctionnement et dynamique des socio-écosystèmes ⌚ 6 credits [lecture: 48h, tutorial classes: 12h, project: 10h] 📅 first term
BIOL-Y180 (optional)	Ethnoécologie ⌚ 3 credits [lecture: 30h] 📅 first term 🗨 French
BIOL-Y192 (optional)	Evolution des cycles de vie ⌚ 6 credits [lecture: 60h] 📅 first term 🗨 French
BIOL-Y193 (optional)	Ecologie et évolution des interactions hôte-parasite ⌚ 6 credits [lecture: 60h] 📅 first term 🗨 French
BIOL-Y194 (optional)	Morphométrie et analyses des formes ⌚ 3 credits [lecture: 30h] 📅 first term 🗨 French
BIOL-Y195 (optional)	Morphologie fonctionnelle: évolution et adaptation ⌚ 3 credits [lecture: 30h] 📅 first term 🗨 French
BIOL-Y196 (optional)	Conservation ex-situ ⌚ 3 credits [lecture: 30h] 📅 first term 🗨 French



BIOL-Y202 (optional) **Gestion et conservation des ressources marines exploitées**
⌚ 3 credits [lecture: 30h] 📅 first term 🗨 French

BIOL-Y203 (optional) **Ecologie et fonctionnement des écosystèmes côtiers**
⌚ 6 credits [lecture: 48h, tutorial classes: 12h, project: 10h] 📅 first term 🗨 French

At the Università degli Studi di Firenze (Florence, Italy) (UNIFI)

BIOL-Y044 **Tropical climatology**
⌚ 6 credits [lecture: 18h, tutorial classes: 6h] 📅 first term 🗨 English

BIOL-Y088 **Ecosystem services and climate change biology**
⌚ 6 credits [lecture: 18h, tutorial classes: 6h] 📅 first term 🗨 English

BIOL-Y181 **Applied Conservation Biology**
⌚ 6 credits [lecture: 18h, tutorial classes: 18h, practical work: 12h] 📅 first term 🗨 English

BIOL-Y183 **Advances in tropical botany**
⌚ 6 credits [lecture: 18h, tutorial classes: 6h] 📅 first term 🗨 English

Courses to choose

At least 6 ECTS to be chosen from:

A total of six credits chosen from the following

BIOL-Y045 (optional) **Tropical Plants in Action**
⌚ 6 credits [lecture: 40h, practical work: 12h] 📅 first term 🗨 French

BIOL-Y091 (optional) **Methods in animal ecology and evolution**
⌚ 6 credits [lecture: 20h, tutorial classes: 4h] 📅 first term 🗨 English

BIOL-Y182 (optional) **Landscape Analysis**
⌚ 6 credits [lecture: 48h, tutorial classes: 24h] 📅 first term 🗨 English

At the Université de Guyane (UdG)

Compulsory

BIOL-Y138 **Introduction à l'environnement tropical**
⌚ 8 credits [lecture: 59h, tutorial classes: 14h, field trips: 15h, project: 15h] 📅 first term 🗨 French

BIOL-Y139 **Origine et maintien de la biodiversité**
⌚ 4 credits [lecture: 37h, tutorial classes: 1,5h, field trips: 3h] 📅 first term 🗨 French

BIOL-Y141 **Analyse des données biologiques**
⌚ 4 credits [lecture: 50h] 📅 first term 🗨 French

BIOL-Y142 **Botanique évolutive et écologie fonctionnelle**
⌚ 7 credits [lecture: 32h, tutorial classes: 9h, field trips: 12,5h] 📅 first term 🗨 French

BIOL-Y144 **Gestion des forêts tropicales**
⌚ 5 credits [lecture: 30h, project: 15h] 📅 first term 🗨 French

BIOL-Y145 **Professionnalisation**
⌚ 2 credits [lecture: 15h] 📅 first term 🗨 French