

M.Sc. Biodiversity: Ecology, Evolution, and Conservation

Biodiversity: obligatory covering module		12 ECTS
Major studies	Ecology (with specification in Plants or Animals)	36 ECTS 6 modules 6 ECTS each
	Evolution	
	Conservation Biology	
Complementary studies: 4 modules, 6 ECTS each of different categories: exploration, functions, dynamics, and maintenance of biodiversity		24 ECTS
Key competences: languages, methods, social, self, expertise		12 ECTS
Project management & Research methods: obligatory		6 ECTS
Master's thesis (24 weeks)		30 ECTS

Neuer Titel:

Biodiversity: Ecology, Evolution, and Conservation

(BEEC)

Neustrukturierung der Schwerpunkte im MSc voraussichtlich ab WiSe 24/25;

Beschluss der Dozentenversammlung vom 25.10.2023

Three fields of major studies (36 ECTS each)

1) **Ecology** (eine Spezifikation ist optional)

Obligatory modules (12 C):

Plant Ecology and Ecosystems Research (M.Biodiv.402) or
Vegetation Ecology and Vegetation History (M.Biodiv.403),
and Animal Ecology (M.Biodiv.404)

- with specification on **Plants**

Core modules (12-24 C):

Project Course: Plant Ecology (M.Biodiv.421)
CO₂- and H₂O-balance of Trees (M.Biodiv.422)
Study of Habitats (M.Biodiv.423)
Field Studies in Plant Ecology, Phytodiversity & Ecosystems
Research (M.Biodiv.424)
Impact of Global Climate Change on Plant Communities and their
Functional Traits (M.Biodiv.450)
Regional Vegetation Ecology and Phytodiversity (M.Biodiv.406)
Project Study: Palaeoecology and Palynology (M.Biodiv.430)
Applied Vegetation Ecology & Multivariate Analysis (M.Biodiv.431)
Field Studies in Phytodiv., Veg.-Ecol. & Palaeoecol. (M.Biodiv.435)
Project Study: Vegetation and Phytodiversity (M.Biodiv.436)
Vegetation History: Methods in Palaeoecology (M.Biodiv.437)

Supplementary modules (0-12 C):

Practical Course Nature Conservation in Agricultural Landscapes
(M.Agr.0061)
Forest Ecosystems (M.Forst.795)
Modern Methods in Ecology (M.Forst.775)
Soils of the Earth (M.Forst.754)
Practice in Soil Hydrology (M.Forst.756)
Practice in Soil Microbiology (M.Forst.757)
Stable Isotopes in Terrestrial Ecology (M.Forst.774)
Ecological Simulation Modelling (M.FES.122)
Genetic Resources and Physiology of Wood Plants (M.Forst.213)
Ecology and Nature Conservation (M.Agr.0052)
Statistical Data Analysis with R (M.FES.115)
Resource Utilisation Problems (M.Geg.02)
Landscape Ecology (M.Geg.17)
Quaternary Climate and Landscape Development (M.Geg.06 (Biodiv))
Palaeobotany (M.Geo.116)

- with specification on **Animals**

Core modules (12-24 C):

Evolutionary Ecology (M.Biodiv.441)
Synecology of Animals (M.Biodiv.442)
Field Studies in Animal Ecology and Zoological Biodiversity
(M.Biodiv.443)
Molecular Analysis of Trophic Interactions in Soil Food Webs
(M.Biodiv.445)
Biodiversity, Ecology & Evolution of Terrestrial Invertebrates
(M.Biodiv.447)

Supplementary modules (0-12 C):

Molecular Zoology and Insect Biotechnology (M.Biodiv.446)

Biological Control and Biodiversity (M.Agr.0009)
 Ecology and Nature Conservation (M.Agr.0052)
 Forest Ecosystems (M.Forst.795)
 Modern Methods in Ecology (M.Forst.775)
 Soils of the Earth (M.Forst.754)
 Practice in Soil Microbiology (M.Forst.757)
 Stable Isotopes in Terrestrial Ecology (M.Forst.774)
 Ecological Simulation Modelling (M.FES.122)
 Genetic Resources and Physiology of Wood Plants (M.Forst.213)

2) Evolution

- Obligatory module (12 C): Evolution of Embryophyta (M.Biodiv.425) **and** Evolutionary Biology (M.Biodiv.415)
- Core modules (12-24 C): Project studies in Plant Systematics, Evolution & Phylogeny (M.Biodiv.490)
 Next Generation Sequencing for Evolutionary Biology (M.Biodiv.491)
 Molecular methods for Next Generation Sequencing in Evolutionary Biology and Systematics (M.Biodiv.492)
 Introduction to Phylogenomics (M.Biodiv.479)
 Introduction to Phylogenetics (M.Biodiv.600)
 Electron Microscopy (M.Biodiv.470)
 Field studies in systematics, biodiversity and ecology of marine invertebrates (M.Biodiv.478)
 Project studies in animal evolution and biodiversity (M.Biodiv.605)
 Pro- and Eucaryotic Algae: Evolution and Systematics (M.Biodiv.418)
 Molecular Determination of Biodiversity of Algae and their Evolution (M.Biodiv.460)
 Ex situ Conservation of Biodiversity of Algae (M.Biodiv.461)
- Supplementary modules (0-12 C): Reproduction and Evolution of Flowering Plants (M.Biodiv.426)
 Biodiversity and Biogeography of Embryophyta (M.Biodiv.428)
 Evolutionary Ecology ((M.Biodiv.441)
 Palaeobotany (M.Geo.116)
 Geobiology (M.Geo.117)
 Biosedimentology (B.Geo.209)
 Field studies in Animal Ecol. & Zoological Biodiversity (M.Biodiv.443)
 Molecular Zoology and Insect Biotechnology (M.Biodiv.446)

3) Conservation Biology

- Obligatory modules (18 C): Conservation Biology (M.Biodiv.412) **and** Animal Ecology (M.Biodiv.404) **and** Plant Ecology & Ecosystems Research (M.Biodiv.402) **or** Vegetation Ecology & Vegetation History (M.Biodiv.403)
- Core modules (12-18 C): Nature Conservation Inventories (M.Biodiv.480)
 Population Biology in Nature Conservation (M.Biodiv.481)
 Field Studies in Conservation Biology (M.Biodiv.482)
 Assessment of Wildlife Species for Nature Conservation (M.Biodiv.483)
 Ornithology (M.Biodiv.488)
 Ecology and Politics of Forest Nature Conservation (M.Forst.212)
- Supplementary modules (0-6 C): Study of Habitats (M.Biodiv.423)
 Applied Vegetation Ecology & Multivariate Analysis (M.Biodiv.431)
 Synecology of Animals (M.Biodiv.442)
 Impact of Global Climate Change on Plant Communities and

their Functional Traits (M.Biodiv.450)
Landscape Ecology (M.Geg.17)
Biological Control and Biodiversity (M.Agr.0009)
Practical Course Nature Conservation in Agricultural
Landscapes (M.Agr.0061)
Ecology and Nature Conservation (M.Agr.0052)
Methods and Management of Nature Conservation
(M.Forst.232)
Resource Utilisation Problems (M.Geg.02)
Quaternary Climate and Landscape Development
(M.Geg.06 (Biodiv))
Data Analysis for Field Biologists (M.INC.1006)