



Master (M.Sc.) of Biodiversity, Ecology and Evolution

Modules of **major studies**; from winter term 2021/'22 onwards; date: 13.07.2021

Seven fields of major studies (30 ECTS each)

1) **Plant Ecology, Phytodiversity & Vegetation History** (Focus 1 or Focus 2)

- Focus 1: Experimental Plant Ecology & Ecosystems Research

- Obligatory module (6 C): Plant Ecology and Ecosystems Research (M.Biodiv.402)
- 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)
- Supplementary modules (0-12 C): Applied Vegetation Ecology & Multivariate Analysis (M.Biodiv.431)
 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)

- Focus 2: Vegetation Ecology, Phytodiversity & Vegetation History

- Obligatory module (6 C): Vegetation Ecology and Vegetation History (M.Biodiv.403)
- Core modules (12-24 C):
 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 Phytodiversity, Vegetation Ecology & Palaeoecology (M.Biodiv.435)
 Project Study: Vegetation and Phytodiversity (M.Biodiv.436)
 Vegetation history: Methods in palaeoecology (M.Biodiv.437)
- Supplementary modules (0-12 C):
 Study of Habitats (M.Biodiv.423)
 Practical Course Nature Conservation in Agricultural Landscapes (M.Agr.0061)
 Ecology and Nature Conservation (M.Agr.0052)
 Soils of the Earth (M.Forst.754)
 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)

2) Animal Ecology

- Obligatory module (6 C): Animal Ecology (M.Biodiv.404)
- 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): Primate Ecology (M.Biodiv.408)
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)

3) Evolution

- Obligatory module (6 C): Evolutionary Biology (M.Biodiv.415)
- Core modules (12-24 C): Introduction to Phylogenomics (M.Biodiv.479)
Evolutionary Ecology (M.Biodiv.441)
Molecular Zoology and Insect Biotechnology (M.Biodiv.446)
Introduction into Behavioural Biology (M.Bio.346)
- Supplementary modules (0-12 C): Primate Ecology (M.Biodiv.408)
Introduction to Phylogenetics (M.Biodiv.600)
Anthropology I: Structure Analysis (M.Biodiv.505)
Anthropology II: Palaeogenetics (M.Biodiv.506)
General and Applied Microbiology (M.Bio.101)
Biosedimentology (B.Geo.209)
Palaeobiology and Biodiversity I (M.Geo.111)
Palaeobiology and Biodiversity II (M.Geo.113)
Palaeobotany (M.Geo.116)

4) Animal Systematics, Morphology & Behaviour

- Obligatory module (6 C): Introduction to Phylogenetics (M.Biodiv.600)
- Core modules (12-24 C): Electron Microscopy (M.Biodiv.470)
Field studies in systematics, biodiversity and ecology of marine invertebrates (M.Biodiv.478)
Introduction to Phylogenomics (M.Biodiv.479)
Project studies in animal evolution and biodiversity (M.Biodiv.605)
- Supplementary modules (0-12 C): Anthropology I: Structure Analysis (M.Biodiv.505)
Field Studies in Animal Ecology and Zoological Biodiversity (M.Biodiv.443)
Palaeobiology and Biodiversity I (M.Geo.111)
Palaeobiology and Biodiversity II (M.Geo.113)

5) Plant Systematics, Evolution & Phylogeny (Focus 1 or Focus 2)

- Focus 1: Embryophyta

- Obligatory module (6 C): Evolution of Embryophyta (M.Biodiv.425)
- Core modules (12-24 C):
 Reproduction and Evolution of Flowering Plants (M.Biodiv.426)
 Next Generation Sequencing for Evolutionary Biology (M.Biodiv.491)
 Molecular methods for Next Generation Sequencing in Evolutionary Biology and Systematics (M.Biodiv.492)
 Geometric Morphometrics in Evolutionary Biology and Systematics (M.Biodiv.493)
- Supplementary modules (0-12 C): Biodiversity and Biogeography of Embryophyta (M.Biodiv.428)
 Molecular Determination of Biodiversity of Algae and their Evolution (M.Biodiv.460)
 Project studies in Plant Systematics, Evolution & Phylogeny (M.Biodiv.490)
 Palaeobiology and Biodiversity II (M.Geo.113)
 Palaeobotany (M.Geo.116)

- Focus 2: Pro- and Eucaryotic Algae

- Obligatory module (6 C): Pro- and Eucaryotic Algae: Evolution and Systematics (M.Biodiv.418)
- Core modules (12-24 C):
 Algae and Lichens (M.Biodiv.419)
 Evolutionary Ecology (M.Biodiv.441)
 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): Field Studies in Plant Ecology, Phytodiversity & Ecosystems Research (M.Biodiv.424)
 General and Applied Microbiology (M.Bio.101)
 Palaeobiology and Biodiversity II (M.Geo.113)
 Practice in Soil Microbiology (M.Forst.757)

6) Conservation Biology

- Obligatory module (6 C): Conservation Biology (M.Biodiv.412)
- Core modules (12-24 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 (0-12 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)

7) Forensic Biology

Obligatory module (6 C):

Biological and Forensic Trace Interpretation (M.Biodiv.500)

Core modules (12-24 C):

Forensic Anthropology and Demonstration of Dissection
(M.Biodiv.501)

Analyses of trace-DNA - Genetic Fingerprinting and Quality
Assurance (M.Biodiv.502)

Forensic Microbiology (M.Biodiv.503)

Palynology and Analyses of Macro-Relics (M.Biodiv.504)

Introduction to Phylogenomics (M.Biodiv.479)

Supplementary modules (0-12 C): Anthropology I: Structure Analysis (M.Biodiv.505)

Anthropology II: Palaeogenetics (M.Biodiv.506)

Vegetation Ecology and Vegetation History (M.Biodiv.403)

Algae and Lichens (M.Biodiv.419)

Study of Habitats (M.Biodiv.423)

Synecology of Animals (M.Biodiv.442)

Impact of Global Climate Change on Plant Communities and their
Functional Traits (M.Biodiv.450)

Morphology of Animals: Electron Microscopy (M.Biodiv.470)

Biodiversity, Ecology and Evolution of Terrestrial Invertebrates
(M.Biodiv.447)

General and Applied Microbiology (M.Bio.101)

Contact

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