



UNIVERSITÄT
KOBLENZ · LANDAU

module handbook

for the study programme

Master of Science (M.Sc.)

BioGeoSciences

Version number: 20187 Valid from
winter semester 2020/21 Valid from
winter semester 2020/21

at the
Koblenz

Programme description:

1. Contact persons for individual areas of the Master's programme

BioGeoSciences: Prof. Dr. K. Fischer Geography: Prof.

Dr. B. Köppen

Biology: Prof. Dr. E. Fischer

2. Courses, performance assessments and exam-relevant coursework

The courses offered in the Master's programme are divided into a compulsory area and an elective area. The compulsory area consists of seven modules in English with a total of 48 ECTS credits. The elective component consists of 16 modules, 7 of which can be freely chosen from the courses offered by the Biology Department and the Geography Department at the University of Koblenz-Landau, with a total of 42 ECTS credits. The modules are designed so that they can usually be completed within one term, including the module exams. A further 30 ECTS credits are awarded for the MSc thesis, including the final examination.

Depending on the module, performance assessments for the individual courses can be completed by means of module final examinations or module partial examinations in the form of exams, oral exams or student research projects (for details, see the examination regulations

and Section 7 in the module handbook). The dates of the examinations will be announced at the beginning of the first course of the module. Final module examinations are held at the end of the lecture period of the term in which the corresponding courses were held. Candidates must register for one of the two examinations at least two weeks before the first examination date. If the cancellation or

If you fail to attend the examination, the module exam is considered failed on the first attempt. A performance assessment that is not graded as sufficient may be repeated twice. If the second repeat is also not graded at least "sufficient" (4.0), the coursework is considered definitively not completed; a further repeat of the same coursework is not permitted. If this occurs in a compulsory module, the degree cannot be completed.

The headings of the following module descriptions contain information on the type and title of the module, the ECTS credits to be acquired, the number of semester loads, the workload and the frequency of the course. The courses are differentiated according to lectures (V), laboratory exercises (LÜ), field exercises (FÜ), excursions (E), internships (P), projects (Pro) and seminars (S). Section 2 describes the expected learning outcomes and the subject-specific competences that students should have acquired by the end of their studies, to which each module contributes in a specific way. Section 3, "Contents," contains a brief description of the main topics covered in the courses.

This is followed by further information on frequency, individual course requirements, examination forms, language of instruction, literature, participating divisions and module coordinators.

Participation in the compulsory modules does not require any content-related prerequisites beyond the knowledge acquired in the Bachelor's programme, while some compulsory elective modules require the successful degree of other modules or the necessary knowledge proven elsewhere.

The third term can be used as a term abroad after consultation with and prior approval by the examination board. ECTS credits earned at the host university are credited up to a maximum of 30 ECTS in the compulsory elective area. The Master's thesis can also be completed abroad after consultation with the examination board.

3. Competences and key qualifications

During their studies, graduates of the Master's programme should acquire the following competences and key qualifications:

I. Technical qualifications

- 1.1 Ability to understand and analyse complex (landscape) ecological relationships
- 1.2 Ability to assess the current state and predict changes in limnic-terrestrial ecosystems
- 1.3 Ability to collect valid academic data in the field and in the laboratory
- 1.4 Ability to work with databases, statistically process data and present it in the form of tables, diagrams, maps and text
- 1.5 In-depth biological and ecological knowledge
- 1.6 In-depth knowledge of geoecology, physical geography and anthropogeography
- 1.7 Ability to weigh up ecological and socio-economic requirements
- 1.8 Ability to conduct research in the field of biogeoscience

II. Social and communication skills

- 2.1 Ability to work in a team
- 2.2 Ability to present the results of scientific analyses and forecasts in writing and orally
- 2.3 Ability to present the results of scientific analyses and forecasts in writing and orally in English

4. Study plan

The following study plan is a suggestion that shows how the standard period of study can be adhered to with the appropriate distribution of compulsory and compulsory elective modules. The plan is presented as an example for students starting their studies in the summer semester.

term	Identification number	module	LP
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1 (SS)	03BI2328	Conservation Biology	6
1 (SS)	03BI2329	Diversity of Angiosperms	6
1 (SS)	03GE2330	Methods in Geocology	6
1 (SS)		Elective	12
		Total	30
2 (WS)	03GE2331	Physical Geography	6
2 (winter semester)	03BI2330	Aquatic Ecology and Management (Part 1: 3223301)	3
2 (winter semester)		Elective	2
		Total	30
3 (SS)	03GE2314	Landscape Ecology	6
2 (winter semester)	03BI2330	Aquatic Ecology and Management (Part 2: 3223302)	3
3 (SS)	03XX2302	Research Practical	12
3 (SS)		Elective	9
		Total	30
4 (WS)	03XX2390	Master's thesis in BioGeoSciences	27
4 (winter semester)	03XX2399	Oral final examination	3
		Total	30
		Total	120 LP

Module description BioGeoSciences Table of contents

Compulsory modules

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Elective

03BI2338	module 08 Biology 1	20
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03BI2343	module 24 Freshwater Ecology	65
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03BI2341	module 26 Ecological water assessment	70
03BI2342	Module 27 Experimental design and data analysis	72

Master's thesis

03XX2390	Master's thesis in BioGeoSciences	74
03XX2399	Oral final examination	74

Compulsory modules

To successfully complete the Master's degree, students must earn at least 120 credit points, 78 of which must be earned in compulsory modules (including the Master's thesis and oral exam).

module 01 03BI2328 module					Conservation Biology 6 credit points Compulsory				
Workload 180 hours					semester 1st term (recommended)		Duration 1 term		
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	1.1	V	Conservation Biology	3223281	Compulsory	2 hours per week 30 hours	60 hours	30	3
	1.2	S	Conservation Biology	3223282	Compulsory	2 hours per week 30 hours	60 hours	30	3
2	Learning outcomes / Competences 3223281 - Conservation Biology (V) The students - gain in-depth knowledge of the field of conservation biology and associated challenges. 3223282 - Conservation Biology (S) The students - are able to critically reflect primary scientific literature in the context of conservation biology and to summarise the key findings within a scientific presentation.								
3	Contents 3223281 - Conservation Biology (V) - Introduction to Conservation Biology - Threats to Biodiversity - Habitat Degradation, Loss, and Fragmentation - Habitat Fragmentation - Overexploitation - Invasive Species - Biological Impacts of Climate Change - Conservation Genetics - Species and Landscape Approaches to Conservation - Goals, Limitations and Design of Protected Areas - Corridors in Conservation Biology 3223282 - Conservation Biology (S) - Reading and discussing primary scientific literature in the context of conservation biology. - Giving a scientific presentation on selected topics within the field of conservation biology.								
4	Frequency of offering Only in the summer semester								

	3223281 - Conservation Biology (V) Only in the summer semester 3223282 - Conservation Biology (S) Only in the summer semester
5	Language of instruction 3223281 - Conservation Biology (V) English 3223282 - Conservation Biology (S) English
6	Individual course requirements None
7	Examination Module exam Conservation Biology as an exam (written - 60 minutes)
8	Requirements for awarding credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr Klaus Fischer
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223281 - Conservation Biology (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223282 - Conservation Biology (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature • Groom, Meffe, Carroll: Principles of Conservation Biology. Sinauer Associates Inc.; • Pullin: Conservation Biology. Cambridge; • Primack: Essentials in Conservation Biology. Sinauer Associates Inc.;
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information 3223281 - Conservation Biology (V) This course can be included and credited in module 13 of the related to teaching Master of Education Biology Gymnasium. 3223282 - Conservation Biology (S)

This course can be included and credited in module 13 of the related to teaching
Master of Education Biology Gymnasium.

module 02 03BI2329 module					Diversity of Angiosperms					6 credit points Compulsory	
Workload 180 hours					semester 1st term (recommended)					Duration 1 term	
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP		
	2.1	V	Diversity of Angiosperms	3223291	Compulsory	2 hours per week 30 hours	60 hours	30	3		
	2.2	LÜ	Diversity of Angiosperms	3223292	Compulsory	2 hours per week 30 hours	60 hours	30	3		
2	Learning outcomes / Competences										
	3223291 - Diversity of Angiosperms (V) The students - acquire in-depth knowledge of the phylogeny and diversity of angiosperms. 3223292 - Diversity of Angiosperms (LÜ) The students - are able to critically reflect on the phylogeny of angiosperms and to identify groups that are sensitive bioindicators and suitable for a Rapid Biodiversity Assessment.										
3	Contents										
	3223291 - Diversity of Angiosperms (V) - Introduction to phylogenetic methods Autapomorphic characters of angiosperms - Molecular systematics of angiosperms and their importance for phylogenetic systematics - Pollination as a driver of angiosperm evolution - Basal angiosperms (Magnoliidae) - Magnolianaes (basal "dicotyledoneae") - Lillianaes ("monocotyledons") - Rosidae (higher evolved "dicotyledoneae") 3223292 - Diversity of Angiosperms (LÜ) - Practical examination of living plants - Overview of the angiosperms - Reflection of autapomorphic and synapomorphic characters - Identification of plant families - Identification of bioindicators in tropical environments - Identification of plant groups suitable for rapid biodiversity assessment - Examination of different pollination syndromes										
4	Frequency of offering										
	Only in the summer semester 3223291 - Diversity of Angiosperms (V) Only in the summer semester 3223292 - Diversity of Angiosperms (LÜ)										

	Only in the summer semester
5	Language of instruction 3223291 - Diversity of Angiosperms (V) English 3223292 - Diversity of Angiosperms (LÜ) English
6	Individual course requirements None
7	Examination Module exam Diversity of Angiosperms as a term paper (written - 2 weeks)
8	Requirements for awarding credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr Eberhard Fischer
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223291 - Diversity of Angiosperms (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223292 - Diversity of Angiosperms (LÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature Will be announced in the relevant courses.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information 3223291 - Diversity of Angiosperms (V) This course can be included and credited in module 13 of the related to teaching Master of Education Biology Gymnasium. 3223292 - Diversity of Angiosperms (LÜ) This course can be included and credited in module 13 of the related to teaching Master of Education Biology Gymnasium.

module 03 03BI2330 module		Aquatic Ecology and Management				6 credit points Compulsory			
Workload 180 hours		semester 2nd term (recommended)				Duration 2 terms			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	3.1	V	Aquatic Ecology	3223301	Compulsory	2 hours per week 30 hours	60 hours	60	3
	3.2	V	Management of Inland Waters	3223302	Compulsory	2 hours per week 30 hours	60 hours	60	3
2	Learning outcomes / Competences 3223301 - Aquatic Ecology (V) The students • know the identity and capability of eukaryotic and prokaryotic key players in the aquatic food web • have advanced knowledge about important functions and ecosystem services of aquatic ecosystems • are able to assess the impact of anthropogenic stressors on the integrity of freshwater ecosystems • are able to transfer their knowledge of mutualistic interactions in freshwater ecosystems for applied environmental issues 3223302 - Management of Inland Waters (V) The students • acquire basic knowledge in data management and handling • are able to document steps in data processing and to create metadata • know general and statistical models and can apply general concepts in theoretical aquatic ecology • know the basic regulatory concepts of water management in Germany and the EU								
3	Contents 3223301 - Aquatic Ecology (V) • Advanced concepts of structure and function of aquatic ecosystems (pelagic and benthic food webs, hydromorphology, environmental conditions) in freshwater systems • Functions and ecosystem services of aquatic ecosystems (ecophysiology, species interactions, fluxes of matter and energy) • Mutualistic interactions of organisms in freshwater ecosystems • Impact of direct and indirect stressors in the aquatic environment • Preservation of biodiversity in water bodies under anthropogenic stressors 3223302 - Management of Inland Waters (V) • Basic concepts in acquisition, access, structuring, architecture, quality assurance, processing, and storage of data • Introduction to basic concepts of data processing and modelling software • Introduction to multivariate statistics and ecological modelling • Concepts in theoretical aquatic ecology • Regulatory concepts in environmental management								
4	Frequency of offering From winter semester								

	3223301 - Aquatic Ecology (V) only in winter semester 3223302 - Management of Inland Waters (V) only in the summer semester
5	Language of instruction 3223301 - Aquatic Ecology (V) English 3223302 - Management of Inland Waters (V) English
6	Individual course requirements None
7	Examination formats Module examination 3223301: Aquatic Ecology as an exam (written - 45 minutes) Module examination 3223302: Management of Inland Waters as an exam (written - 45 minutes)
8	Requirements for the award of credit points 3223301 - Aquatic Ecology (V) Passing the module part examination 3223302 - Management of Inland Waters (V) Passing the module examination
9	Weighting of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr. Werner Manz
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223301 - Aquatic Ecology (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223302 - Management of Inland Waters (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature References are updated at the beginning of each course.
13	Use in study programme M.Sc. BioGeoSciences (20187) M.Sc. Applied Natural Sciences (20193)
14	Other information

3223301 - Aquatic Ecology (V)

This course can be included and credited in module 13 of the related to teaching Master of Education Biology Gymnasium.

3223302 - Management of Inland Waters (V)

This course can be included and credited in module 13 of the related to teaching Master of Education Biology Gymnasium.

module 04 03GE2330 module		Methods in Geoecology				6 credit points Compulsory			
Workload 180 hours		semester 1st term (recommended)				Duration 1 term			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	4.1	S	Methods in Geoecology	3423301	Compulsory	1 SWS 15 hours	45 hours	30	2
	4.2	P	Methods in Geoecology	3423302	Compulsory	3 SWS 45 hours	75 hours	30	4
2	Learning outcomes / Competences 3423301 - Methods in Geoecology (S) The students - acquire basic knowledge of the assessment of geoecological structures and processes in the field - have a structured theoretical overview of multiple geoecological field methods - are able to select suitable geoecological laboratory methods for solving specific questions of geoecology/landscape ecology - acquire knowledge of field and laboratory methods for the advanced monitoring of relief, soil, climate and water parameters 3423302 - Methods in Geoecology (P) The students - learn methods for processing and interpreting landscape data - interpret the results of selected geoecological field methods - are able to carry out selected geoecological field methods autonomously - gain the capacity to plan field campaigns – from choice and design of methods and the implementation of field measurements to data analysis and interpretation.								
3	Contents 3423301 - Methods in Geoecology (S) - field and laboratory methods in geomorphology, hydrology, soil science and climatology - geoecological field studies - landform parameters - soil profiles and soil properties - runoff and sediment transport 3423302 - Methods in Geoecology (P) - laboratory methods - selected field methods of soil science - selected field methods of geomorphology - selected field methods of hydrology - selected field methods of climatology - choice and design of methods - implementation of field measurements - data analysis and interpretation								
4	Frequency of offering								

	Only in the summer semester 3423301 - Methods in Geoecology (S) Only in the summer semester 3423302 - Methods in Geoecology (P) Only in the summer semester
5	Language of instruction 3423301 - Methods in Geoecology (S) English 3423302 - Methods in Geoecology (P) English
6	Individual course requirements None
7	Examination Module exam Methods in Geoecology as a term paper (written - 2 weeks)
8	Requirements for the award of credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Dr Michael Tempel
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423301 - Methods in Geoecology (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423302 - Methods in Geoecology (P) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography
12	Literature Will be announced in the relevant courses.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information

module 05		Landscape Ecology				6 credit points			
03GE2314						Compulsory			
module									
Workload 180 hours		semester 3rd term (recommended)				Duration 1 term			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	5.1	S	Practical Internship Landscape Ecology	3423141	Comp	1 SWS 15 hours	45 hours	30	2
	5.2	P	Practical Internship Landscape Ecology	3423142	Compulsory	3 SWS 45 hours	75 hours	30	4
2	Learning outcomes / Competences 3423141 - Practical Internship Landscape Ecology (S) The students - gain in-depth knowledge of the interactions in landscape ecosystems - are able to plan and design a geo-ecological site investigation - evaluate ecosystems in their interaction with different spheres (e.g. pedosphere, hydrosphere, atmosphere, biosphere, and lithosphere) 3423142 - Practical Internship Landscape Ecology (P) The students - are able to conduct an independent geo-ecological site investigation - can select and evaluate methods required for a geo-ecological site investigation - can prepare the results of an independently conducted site investigation and present them in a scientific work								
3	Contents 3423141 - Practical Internship Landscape Ecology (S) - soils and substrates of different ecosystems - changes in geo-ecological processes in space and time - Ecosystem interactions of different spheres (in the context of the pedosphere and hydrosphere) 3423142 - Practical Internship Landscape Ecology (P) - causes and effects of geo-ecological processes - Water and material balance in its dynamics - Possibilities for the protection of soils and waters - Resource protection and sustainability								
4	Frequency of offering Only in the summer semester 3423141 - Practical Internship Landscape Ecology (S) Only in the summer semester 3423142 - Practical Internship Landscape Ecology (P) Only in the summer semester								
5	Language of instruction								

	3423141 - Practical Internship Landscape Ecology (S) English 3423142 - Practical Internship Landscape Ecology (P) English
6	Individual course requirements None
7	Examination Module exam Landscape Ecology as a term paper (written - 2 weeks)
8	Requirements for awarding credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Dr Michael Tempel
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423141 - Practical Internship Landscape Ecology (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423142 - Practical Internship Landscape Ecology (P) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography
12	Literature Will be announced in the relevant courses.
13	Use in study programme M.Sc. BioGeoSciences (20125) M.Sc. BioGeoSciences (20125) M.Sc. BioGeoSciences (20187) M.Sc. BioGeoSciences (20177) M.Sc. BioGeoSciences (20177)
14	Other information

module 06 03GE2331 module		Physical Geography				6 credit points Compulsory			
Workload 180 hours		semester 2nd term (recommended)				Duration 1 term			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	6.1	S	Field Studies Soil, Water and Climate	3423311	Compulsory	1 SWS 15 hours	45 hours	30	2
	6.2	P	Field Studies Soil, Water and Climate	3423312	Compulsory	3 SWS 45 hours	75 hours	30	4
2	Learning outcomes / Competences 3423311 - Field Studies Soil, Water and Climate (S) The students - gain a deeper understanding of the runoff processes in a low mountain range drainage basin - can use the concept of waterbody structure quality mapping - gain in-depth knowledge of processes that influence soil, water and climate properties - can analyse processes of climate change 3423312 - Field Studies Soil, Water and Climate (P) The students - can independently carry out and evaluate experiments on current scientific topics in soil, water and climate science (in the field and laboratory tests) - acquire the ability to design, conduct, discuss and present a scientific paper on topics of soil, water and climate science - are able to plan and carry out research work in the field - acquire the ability to design, conduct, discuss and present a scientific work on hydrological, soil and climate topics								
3	Contents 3423311 - Field Studies Soil, Water and Climate (S) - Chemical, physical and biological processes in soils, water and climate - Field and laboratory tests - Planning and conception of soil sampling and laboratory tests - Runoff processes - Runoff-relevant parameters - water body structure quality/mapping - decentralised flood protection measures - climate change parameters 3423312 - Field Studies Soil, Water and Climate (P) - Planning, conception and implementation of an independent research project - Operation and evaluation of soil, water and climate science experiments - Statistical analysis of the results - Data interpretation and presentation - Synthesis and final presentation of an independent research project								

4	Frequency of offering Only in the winter semester 3423311 - Field Studies Soil, Water and Climate (S) Only in the winter semester 3423312 - Field Studies Soil, Water and Climate (P) Only in the winter semester
5	Language of instruction 3423311 - Field Studies Soil, Water and Climate (S) English 3423312 - Field Studies Soil, Water and Climate (P) English
6	Individual course requirements None
7	Examination Module exam in Physical Geography as a term paper (written - 2 weeks)
8	Requirements for the awarding of credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Dr Michael Tempel
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423311 - Field Studies Soil, Water and Climate (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423312 - Field Studies Soil, Water and Climate (P) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography
12	Literature Will be announced in the relevant courses.
13	Use in study programme M.Sc. BioGeoSciences (20187) M.Sc. Applied Natural Sciences (20193)
14	Other information

module 07 03XX2302 module					Research Practical					12 credit points Compulsory		
Two of the following courses must be chosen: either 3223021 and 3223022 or 3423021 and 3423022												
Workload 360 hours					semester 3rd term (recommended)					Duration 1 term		
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP			
	7.1	S	Research Practical with focus on Biology	3223021	Elective	1 SWS 15 hours	45 hours	30	2			
	7.2	Per	Research Practical with focus on Biology	3223022	Elective	0 hours per week 0 hours	300 hours	1	10			
	7.3	S	Research Practical with focus on Geography	3423021	Elective	1 SWS 15 hours	45 hours	30	2			
	7.4	Pro	Research Practical with focus on Geography	3423022	Elective	0 hours per week 0 hours	300 hours	1	10			
2	Learning outcomes / Competences											
	3223021 - Research Practical with focus on Biology (S)											
	The students											
	- are able to read, understand and critically reflect on primary scientific articles relevant to selected topics within the field of biology; - are able to extract the key findings of scientific articles and present them within a scientific presentation.											
	3223022 - Research Practical with focus on Biology (Pro)											
	The students											
	- acquire comprehensive knowledge of literature searches and are able to compile literature relevant to a specific research topic, - gain in-depth theoretical and practical knowledge on selected topics within the field of biology relevant to the research practical, - gain extended knowledge on experimental design, hypothesis testing, data collection and analysis as well as scientific writing.											
	3423021 - Research Practical with focus on Geography (S)											
	The students											
	- are able to read, understand and critically reflect on primary scientific articles relevant to selected topics within the field of geography, - are able to extract the key findings of scientific articles and present them within a scientific presentation.											
3423022 - Research Practical with focus on Geography (Pro)												
The students												
gain comprehensive knowledge on literature search and are able to compile the literature relevant to a specific research topic,												

	- gain in-depth theoretical and practical knowledge on selected topics within the field of geography relevant to the research practice, - gain extended knowledge on experimental design, hypothesis testing, data collection and analysis as well as scientific writing.
3	Contents 3223021 - Research Practical with focus on Biology (S) Reading and discussing primary scientific articles relevant to selected topics within the field of biology. Presenting the key findings of selected scientific articles within a scientific presentation. 3223022 - Research Practical with focus on Biology (Pro) - Literature search - Developing an experimental design to test a specific hypothesis - Collecting and analysing data within a defined research project - Presenting the data collected as a journal-style paper 3423021 - Research Practical with focus on Geography (S) Reading and discussing primary scientific articles relevant to selected topics within the field of geography. Presenting the key findings of selected scientific articles within a scientific presentation. 3423022 - Research Practical with focus on Geography (Pro) - Literature search - Developing an experimental design to test a specific hypothesis - Collecting and analysing data within a defined research project - Presenting the data collected as a journal-style paper
4	Frequency of offering Every term 3223021 - Research Practical with focus on Biology (S) Every term 3223022 - Research Practical with focus on Biology (Pro) Every term 3423021 - Research Practical with focus on Geography (S) Every term 3423022 - Research Practical with focus on Geography (Pro) Every term
5	Language of instruction 3223021 - Research Practical with focus on Biology (S) English 3223022 - Research Practical with focus on Biology (Pro) English 3423021 - Research Practical with focus on Geography (S) English 3423022 - Research Practical with focus on Geography (Pro)

	English
6	Individual course requirements None
7	Examination Module exam Research Practical as a term paper (written - 4 weeks) 3223021 - Research Practical with focus on Biology (S) coursework: Seminar presentation (oral – 20 min.) 3423021 - Research Practical with focus on Geography (S) coursework: Seminar presentation (oral – 20 min.)
8	Requirements for the award of credit points Passing the module exam 3223021 - Research Practical with focus on Biology (S) Passing the coursework 3423021 - Research Practical with focus on Geography (S) Passing the coursework
9	Weighting of final grade 12/120 of the study programme
10	Module coordinator Prof. Dr Klaus Fischer
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3223021 - Research Practical with focus on Biology (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223022 - Research Practical with focus on Biology (Pro) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3423021 - Research Practical with focus on Geography (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423022 - Research Practical with focus on Geography (Pro) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography
12	Literature

	Specific, depending on topic. According to own literature search.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information

Elective

To successfully complete the Master's degree, students must earn at least 120 credit points, 42 of which must be earned in the elective modules.

module 08 03BI2338 module					Biology 1 6 credit points Compulsory				
Workload 180 hours				semester 1st term (recommended)			Duration 1 term		
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	8.1	V	Optional compulsory subject with topics changing each semester	3221231	Elective	2 hours per week 30 hours	60 hours	90	3
	8.2	V	Elective lectures with topics changing each term	3223381	Elective	2 hours per week 30 hours	60 hours	90	3
	8.3	S	Optional compulsory subject with topics changing each semester	3221232	Elective	2 hours per week 30 hours	60 hours	30	3
	8.4	S	Elective lectures with topics changing each term	3223382	Elective	2 hours per week 30 hours	60 hours	30	3
	8.5	LÜ	Optional compulsory subject with topics changing each semester	3221233	Elective	2 hours per week 30 hours	60 hours	30	3
	8.6	LÜ	Elective lectures with term-changing topics	3223383	Elective	2 hours per week 30 hours	60 hours	30	3
	8.8	FÜ	Optional compulsory subject with topics changing each semester	3213331	Elective	2 hours per week 30 hours	60 hours	30	3
2	Learning outcomes / Competences 3221231 - Optional compulsory subject with topics changing each semester (V) Students - have in-depth knowledge of biological topics, e.g. within the fields of botany, zoology and microbiology. 3223381 - Elective lectures with topics changing each term (V) The students - have in-depth knowledge of biological topics. 3221232 - Optional compulsory subject with topics changing each semester (S)								

	The students • have in-depth knowledge of biological topics, e.g. within the fields of botany, zoology and microbiology. • are able to familiarise themselves with the scientific principles of experiments with the help of specialist literature and to present a scientific lecture on a biological topic of their choice. 3223382 - Elective lectures with topics changing each term (S) The students • have in-depth knowledge of biological topics. 3221233 - Optional compulsory subject with topics changing each semester (LÜ) The students • have in-depth knowledge of biological topics, e.g. within the fields of botany, zoology and microbiology. • are able to plan and carry out scientific experiments under supervision and to present and interpret their results. 3223383 - Elective lectures with term-changing topics (LÜ) The students • have in-depth knowledge of biological topics. 3213331 - Optional compulsory subject with topics changing each semester (FÜ) Students • acquire in-depth specialist knowledge on selected topics in outdoor ecology.
3	Contents 3221231 - Optional compulsory subject with topics changing each semester (V) In-depth subject-specific knowledge in biology: botany, for example: • Biology and ecology of mosses • Bioindication • Biology and ecology of algae • Biology and ecology of fungi • Biology and ecology of native ferns and flowering plants Zoology, for example: • Population ecology • Behavioural physiology • Limnoecology • Ecology and functional morphology • Faunistic-ecological studies Microbiology, for example:

- Biotechnology
- Ecotoxicology
- Physiology
- Environmental microbiology

3223381 - Elective lectures with term-changing topics (V)

- Specialised English terminology in biology
- Advanced subject-specific knowledge in biology:

Advanced subject-specific knowledge in biology; examples:

Botany, for example:

- Biology and ecology of mosses
- bioindication
- Biology and ecology of algae
- Biology and ecology of mushrooms
- Biology and ecology of native ferns and flowering plants

example:

- Population ecology
- behavioural physiology
- Aquatic ecology
- Ecology and functional morphology
- Faunistic-ecological investigations

Microbiology, for example:

- Biotechnology
- Ecotoxicology
- Physiology
- Environmental microbiology

3221232 - Optional compulsory subject with topics changing each semester (S)

In-depth subject-specific knowledge in biology: botany, for example:

- Biology and ecology of mosses
 - Bioindication
 - Biology and ecology of algae
 - Biology and ecology of fungi
 - Biology and ecology of native ferns and flowering plants
- Zoology, for example:
- Population ecology
 - Behavioural physiology
 - Limnoecology
 - Ecology and functional morphology
 - Faunistic-ecological studies

Microbiology, for example:

- Biotechnology
- Ecotoxicology
- Physiology
- Environmental microbiology

3223382 - Elective lectures with term-changing topics (S)

- English specialised terminology of biology
- Advanced subject-specific knowledge in biology:

Advanced subject-specific knowledge in biology; examples:

Botany, for example:

- Biology and ecology of mosses
- bioindication
- Biology and ecology of algae
- Biology and ecology of mushrooms
- Biology and ecology of native ferns and flowering plants Zoology, for

example:

- Population ecology
- behavioural physiology
- Aquatic ecology
- Ecology and functional morphology
- Faunistic-ecological investigations

Microbiology, for example:

- Biotechnology
- Ecotoxicology
- Physiology
- Environmental microbiology

3221233 - Optional compulsory subject with topics changing each semester (LÜ)

In-depth subject-specific knowledge in biology: botany, for example:

- Biology and ecology of mosses
- Bioindication
- Biology and ecology of algae
- Biology and ecology of fungi
- Biology and ecology of native ferns and flowering plants Zoology, for example:
- Population ecology
- Behavioural physiology
- Limnoecology
- Ecology and functional morphology
- Faunistic-ecological studies

	Microbiology, for example: • Methods of microbiology. 3223383 - Elective lectures with term-changing topics (LÜ) • Specialised English terminology in biology • Advanced subject-specific knowledge in biology: Advanced subject-specific knowledge in biology; examples: Botany, for example: • Biology and ecology of mosses • bioindication • Biology and ecology of algae • Biology and ecology of mushrooms • Biology and ecology of native ferns and flowering plants Zoology, for example: • Population ecology • behavioural physiology • Aquatic ecology • Ecology and functional morphology • Faunistic-ecological investigations Microbiology, for example: • Methods in microbiology. 3213331 - Optional compulsory subject with topics changing each semester (FÜ) • Selected biological field exercises on various outdoor ecological topics.
4	Frequency Every term 3221231 - Optional compulsory subject with topics changing each semester (V) Every term 3223381 - Elective lectures with topics changing each term (V) Only in the summer semester 3221232 - Optional compulsory subject with topics changing each semester (S) every term 3223382 - Elective lectures with term-changing topics (S) only in the summer semester 3221233 - Optional compulsory subject with topics changing each semester (LÜ) every term 3223383 - Elective lectures with term-changing topics (LÜ) only in the summer semester 3213331 - Optional compulsory subject with topics changing each semester (FÜ)

	every term
5	Language of instruction 3221231 - Optional compulsory subject with topics changing each semester (V) German 3223381 - Elective lectures with topics changing each term (V) English 3221232 - Optional compulsory subject with topics changing each semester (S) German 3223382 - Elective lectures with term-changing topics (S) English 3221233 - Optional compulsory subject with topics changing each semester (LÜ) German 3223383 - Elective lectures with term-changing topics (LÜ) English 3213331 - Optional compulsory subject with topics changing each semester (FÜ) German
6	Individual course requirements
7	Examination Two module examinations: For details, see section 14 (Other information)
8	Requirements for the award of credit points
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr. K. Fischer
11	Responsible institution 3221231 - Optional compulsory subject with topics changing each semester (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223381 - Elective lectures with topics changing each term (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3221232 - Optional compulsory subject with topics changing each semester (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223382 - Elective lectures with term-changing topics (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3221233 - Optional compulsory subject with topics changing each semester (LÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology

	3223383 - Elective lectures with term-changing topics (LÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3213331 - Optional compulsory subject with topics changing each semester (FÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature Will be announced in the relevant courses
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information

Elective courses in areas such as zoology, botany and microbiology: Two courses totalling 6 CP must be taken.

Two examinations (module partial examinations) must be taken. In courses 8.1 to 8.8

, one module part examination is taken.

The types of examination are defined as follows, depending on the type of course: Lecture (V): written examination in the form of a written exam – duration 45 to 90 minutes, depending on the course

Field exercise (FÜ); laboratory exercise (LÜ): written examination in the form of a portfolio

module 09 03BI2339 module				Biology 2				6 credit points Compulsory			
Workload 180 hours				semester 1st term (recommended)				Duration 1 term			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP		
	9.1	V	Optional compulsory subject with topics changing each semester	3221231	Elective	2 hours per week 30 hours	60 hours	90	3		
	9.2	V	Elective lectures with topics changing each term	3223381	Elective	2 hours per week 30 hours	60 hours	90	3		
	9.3	S	Optional compulsory subject with topics changing each semester	3221232	Elective	2 hours per week 30 hours	60 hours	30	3		
	9.4	S	Elective lectures with topics changing each term	3223382	Elective	2 hours per week 30 hours	60 hours	30	3		
	9.5	LÜ	Optional compulsory subject with topics changing each semester	3221233	Elective	2 hours per week 30 hours	60 hours	30	3		
	9.6	LÜ	Elective lectures with term-changing topics	3223383	Elective	2 SWS 30 hours	60 hours	30	3		
	9.8	FÜ	Optional compulsory subject with topics changing each semester	3213331	Elective	2 hours per week 30 hours	60 hours	30	3		
2	Learning outcomes / Competences										
	3221231 - Optional compulsory subject with topics changing each semester (V)										
	Students										
	• have in-depth knowledge of biological topics, e.g. within the fields of botany, zoology and microbiology.										
	3223381 - Elective lectures with topics changing each term (V)										
The students											
• have in-depth knowledge of biological topics.											
3221232 - Optional compulsory subject with topics changing each semester (S)											
Students											
• have in-depth knowledge of biological topics, e.g. within the fields of botany, zoology and microbiology.											
• are able to familiarise themselves with the scientific principles of experiments with the help of specialist literature and to present a scientific lecture on a biological topic of their choice.											
3223382 - Elective lectures with topics changing each term (S)											

	The students • have in-depth knowledge of biological topics. 3221233 - Optional compulsory subject with topics changing each semester (LÜ) The students • have in-depth knowledge of biological topics, e.g. within the fields of botany, zoology and microbiology. • are able to plan and carry out scientific experiments under supervision and to present and interpret their results. 3223383 - Elective lectures with term-changing topics (LÜ) The students • have in-depth knowledge of biological topics. 3213331 - Optional compulsory subject with topics changing each semester (FÜ) The students • acquire in-depth specialist knowledge on selected topics in outdoor ecology.
3	Contents 3221231 - Optional compulsory subject with topics changing each semester (V) In-depth subject-specific knowledge in biology: botany, for example: • Biology and ecology of mosses • Bioindication • Biology and ecology of algae • Biology and ecology of fungi • Biology and ecology of native ferns and flowering plants Zoology, for example: • Population ecology • Behavioural physiology • Limnoecology • Ecology and functional morphology • Faunistic-ecological studies Microbiology, for example: • Biotechnology • Ecotoxicology • Physiology • Environmental microbiology 3223381 - Elective lectures with term-changing topics (V) • Specialised English terminology in biology • Advanced subject-specific knowledge in biology:

Advanced subject-specific knowledge in biology; examples:

Botany, for example:

- Biology and ecology of mosses
- Bioindication
- Biology and ecology of algae
- Biology and ecology of mushrooms
- Biology and ecology of native ferns and flowering plants

example:

- Population ecology
- behavioural physiology
- Aquatic ecology
- Ecology and functional morphology
- Faunistic-ecological investigations

Microbiology, for example:

- Biotechnology
- Ecotoxicology
- Physiology
- Environmental microbiology

3221232 - Optional compulsory subject with topics changing each semester (S)

In-depth subject-specific knowledge in biology: botany, for example:

- Biology and ecology of mosses
- Bioindication
- Biology and ecology of algae
- Biology and ecology of fungi
- Biology and ecology of native ferns and flowering plants

- Population ecology
- Behavioural physiology
- Limnoecology
- Ecology and functional morphology
- Faunistic-ecological studies

Microbiology, for example:

- Biotechnology
- Ecotoxicology
- Physiology
- Environmental microbiology

3223382 - Elective lectures with term-changing topics (S)

- English specialised terminology of biology
- Advanced subject-specific knowledge in biology:

Advanced subject-specific knowledge in biology; examples:

Botany, for example:

- Biology and ecology of mosses
- bioindication
- Biology and ecology of algae
- Biology and ecology of mushrooms
- Biology and ecology of native ferns and flowering plants

example:

- Population ecology
- behavioural physiology
- Aquatic Ecology
- Ecology and functional morphology
- Faunistic-ecological investigations

Microbiology, for example:

- Biotechnology
- Ecotoxicology
- Physiology
- Environmental microbiology

3221233 - Optional compulsory subject with topics changing each semester (LÜ)

In-depth subject-specific knowledge in biology: botany, for example:

- Biology and ecology of mosses
 - Bioindication
 - Biology and ecology of algae
 - Biology and ecology of fungi
 - Biology and ecology of native ferns and flowering plants
- Zoology, for example:
- Population ecology
 - Behavioural physiology
 - Limnoecology
 - Ecology and functional morphology
 - Faunistic-ecological studies
- Microbiology, for example:
- Methods of microbiology.

3223383 - Elective lectures with term-changing topics (LÜ)

- English specialised terminology of biology
- Advanced subject-specific knowledge in biology:

Advanced subject-specific knowledge in biology; examples:

	Botany, for example: • Biology and ecology of mosses • bioindication • Biology and ecology of algae • Biology and ecology of mushrooms • Biology and ecology of native ferns and flowering plants Zoology, for example: • Population ecology • behavioural physiology • Aquatic ecology • Ecology and functional morphology • Faunistic-ecological investigations Microbiology, for example: • Methods in microbiology. 3213331 - Optional compulsory subject with topics changing each semester (FÜ) • Selected biological field exercises on various outdoor ecological topics.
4	Frequency Every term 3221231 - Optional compulsory subject with topics changing each semester (V) Every term 3223381 - Elective lectures with topics changing each term (V) Only in the summer semester 3221232 - Optional compulsory subject with topics changing each semester (S) every term 3223382 - Elective lectures with topics changing each term (S) only in the summer semester 3221233 - Optional compulsory subject with topics changing each semester (LÜ) every term 3223383 - Elective lectures with term-changing topics (LÜ) only in the summer semester 3213331 - Optional compulsory subject with topics changing each semester (FÜ) every term
5	Language of instruction 3221231 - Optional compulsory subject with topics changing each semester (V) German 3223381 - Elective lectures with topics changing each term (V) English 3221232 - Optional compulsory subject with topics changing each semester (S)

	German 3223382 - Elective lectures with term-changing topics (S) English 3221233 - Optional compulsory subject with topics changing each semester (LÜ) German 3223383 - Elective lectures with term-changing topics (LÜ) English 3213331 - Optional compulsory subject with topics changing each semester (FÜ) German
6	Individual course requirements
7	Examination Two module examinations: for details, see section 14 (Other information)
8	Requirements for the award of credit points
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr. K. Fischer
11	Responsible institution 3221231 - Optional compulsory subject with topics changing each semester (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223381 - Elective lectures with topics changing each term (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3221232 - Optional compulsory subject with topics changing each semester (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223382 - Elective lectures with term-changing topics (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3221233 - Optional compulsory subject with topics changing each semester (LÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223383 - Elective lectures with term-changing topics (LÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3213331 - Optional compulsory subject with topics changing each semester (FÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature Will be announced in the relevant courses
13	Use in study programme M.Sc. BioGeoSciences (20187)

14

Other

Elective courses from the fields of zoology, botany, microbiology, etc.: Two courses totalling 6 CP must be taken.

Two examinations (module partial examinations) must be taken. In courses 9.1 to 9.8

, one module part examination is taken.

The types of examination are defined as follows, depending on the type of course: Lecture (V): written examination in the form of an exam – duration 45 to 90 minutes, depending on the course

Field exercise (FÜ); laboratory exercise (LÜ): written examination in the form of a portfolio

module 10		Animal physiology				7 credit points		
03BI2313						Compulsory elective		
module								
Workload 210 hours		semester				Duration 1 term		
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size
	10.1	V	Animal physiology	3211081	Compulsory	2 hours per week 30 hours	60 hours	80
	10.2	LÜ	Animal Physiology Internship	3211082	Compulsory	3 hours per week 45 hours	75 hours	25
2	Learning outcomes / Competences 3211081 - Animal Physiology (V) Students • acquire sound and structured knowledge of the essential content of animal physiology • master the relevant technical terms and can use them correctly • understand physiological processes and adaptations at the cellular and organismic level • gain an overview of the structure, functions and interaction of animal and human organs, in particular the nervous system and the brain (neurobiology) • are able to transfer exemplary principles of physiological mechanisms 3211082 - Animal Physiology Internship (LÜ) Students • are able to carry out simple animal physiology experiments, evaluate, present and interpret the results • have structured specialist knowledge of the fundamental areas of physiology, particularly those relevant to school education • are familiar with the methods of knowledge acquisition used in the subject (induction, deduction, hypothesis formation, reduction, experimental verification) and have experience in the exemplary application of these methods • are familiar with the working methods (professional working practices) of biology (observing, comparing, classifying, working with magnifying glasses and microscopes, experimenting, recording, drawing) • have knowledge and skills in experimentation and in the handling of biological equipment in compliance with safety regulations • have experience in collegial cooperation and teamwork and have strategies for time-efficient and resource-saving professional work							
3	Contents 3211081 - Animal physiology (V) • Function and interaction of organs • Function and mode of action of hormones • Cellular excitability, excitation processes, neural processing mechanisms • Sensory physiology (e.g. vision, hearing, sense of balance, taste, smell) • Neurophysiology; learning and memory • Processes involved in muscle contraction; digestion, respiration, circulation and performance physiology • Homeostasis: thermoregulation, osmoregulation, excretion							

	3211082 - Animal Physiology Internship (LÜ) Conducting animal physiology experiments
4	Frequency Only in the summer semester 3211081 - Animal Physiology (V) Only in the summer semester 3211082 - Animal Physiology Internship (LÜ) Only in the summer semester
5	Language of instruction 3211081 - Animal Physiology (V) German 3211082 - Animal Physiology Internship (LÜ) German
6	Individual course requirements 3211082 - Animal Physiology Internship (LÜ) Passed exam in course 3211081
7	Examination Module part exam Animal Physiology as an exam (written - 90 minutes) Module part exam Animal Physiology Practical as a portfolio (written - 2 weeks)
8	Requirements for the award of credit points Passing the module examinations 3211081 - Animal Physiology (V) Passing the module examination 3211082 - Animal Physiology Internship (LÜ) Passing the module part examination
9	Significance of the final grade 7/120 of the study programme
10	Module coordinator Prof. Dr Klaus Fischer
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3211081 - Animal Physiology (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3211082 - Animal Physiology Internship (LÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology

12	Literature - Hildebrandt, J.P., Bleckmann, H., Homberg, U. (2015): Penzlin - Textbook of Animal Physiology. Springer Spektrum. - Heldmaier, Neuweiler, Rössler (2012): Comparative Animal Physiology Animal Physiology. Springer Spektrum.
13	Use in study programme M.Sc. BioGeoSciences (20125) M.Sc. BioGeoSciences (20187) M.Sc. BioGeoSciences (20177)
14	Other information 3211082 - Animal Physiology Internship (LÜ) Block course after the end of the semester.

module 11		Plant Physiology				7 credit points		
03BI2314						Compulsory elective		
module								
Workload 210 hours		semester				Duration 2 terms		
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size
	11.1	V	Plant physiology	3211071	Compulsory	2 hours per week 30 hours	60 hours	80
	11.2	LÜ	Plant Physiology Internship	3211072	Compulsory	3 hours per week 45 hours	75 hours	25
2	Learning outcomes / Competences 3211071 - Plant Physiology (V) Students • have sound and structured knowledge of the essential content of plant physiology • have a sound and structured knowledge of the essential content of plant physiology • gain insight into physiological processes and their coordination in plants at the molecular, cellular and organismic levels • have structured specialist knowledge of the fundamental areas of biology, particularly those relevant to school education (botany, zoology, human biology and anthropology, cell biology, physiology, genetics and developmental biology, neurobiology and ethology (behavioural biology), ecology, diversity and evolution) • have an overview of current and fundamental issues in biology • have a reflective knowledge of the subject of biology from the meta-disciplines and can classify biological facts in terms of their social and historical significance • are familiar with the methods of knowledge acquisition in the discipline (induction, deduction, hypothesis formation, reduction, modelling, idealisation, mathematisation, experimental verification) and have experience in the exemplary application of these methods in central areas of biology • have experience in obtaining subject-related information and in independently handling specialist literature • take advantage of a wide range of opportunities to further develop their subject-specific and subject-specific pedagogy knowledge 3211072 - Plant Physiology Internship (LÜ) Students • are able to transfer exemplary principles of physiological mechanisms to other mechanisms • are able to carry out simple plant physiology experiments and to present and interpret their results appropriately • have structured specialist knowledge of the fundamental areas of biology, particularly those relevant to school education (botany, zoology, human biology and anthropology, cell biology, physiology, genetics and developmental biology, neurobiology and ethology (behavioural biology), ecology, diversity and evolution)							

	- are familiar with the methods of inquiry used in the subject, discipline (induction, deduction, hypothesis formation, reduction, modelling, idealisation, mathematisation, experimental verification) and have experience in the exemplary application of these methods in central areas of biology - are familiar with the working methods (professional working practices) of biology (observation, comparison, classification, working with magnifying glasses and microscopes, experimentation, recording, drawing, working with models, collecting and exhibiting, cultural technique, caring for plants and animals) and have experience in the exemplary application of these methods in key areas of the subject, discipline - have knowledge and skills in experimentation and in the handling of biological equipment in compliance with safety regulations - have experience in collegial cooperation and teamwork and have strategies for time-efficient and resource-saving professional work - prepare experiment reports.
3	Contents 3211071 - Plant Physiology (V) - Functions of compartments in plant cells - Primary and secondary reactions of photosynthesis; C4 and CAM plants; photosynthetic energy metabolism - Education, transport, storage and mobilisation of assimilates - Lipid, protein and carbohydrate metabolism - Uptake and transport of minerals - Mycorrhizal and root nodule symbioses - Regulation of plant development; hormones - Light receptors, photomorphogenesis, circadian rhythms - Adaptations of plants to abiotic stress factors and pathogens - Water balance and water transport - Genetically modified plants; Arabidopsis as a model plant 3211072 - Plant Physiology Internship (LÜ) - Conducting plant physiology experiments
4	Frequency every term 3211071 - Plant Physiology (V) only in the winter semester 3211072 - Plant Physiology Internship (LÜ) only in the summer semester
5	Language of instruction 3211071 - Plant Physiology (V) German 3211072 - Plant Physiology Internship (LÜ) German
6	Individual course requirements None

7	Examination formats Module exam in plant physiology as an exam (written - 90 minutes)
8	Requirements for awarding credit points Passing the module exam
9	Significance of the final grade 7/120 of the study programme
10	Module coordinator Prof. Dr Eberhard Fischer
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3211071 - Plant Physiology (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3211072 - Plant Physiology Internship (LÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature Will be announced in the relevant courses.
13	Use in study programme M.Sc. BioGeoSciences (20125) M.Sc. BioGeoSciences (20187) M.Sc. BioGeoSciences (20177)
14	Other information

module 12 03BI2337					Biodiversity and Assessment Methods for Insects					6 credit points Elective module	
Workload 180 hours					semester					Duration 1 term	
1	Courses					Compulsory/elective	Contact hours	Self-study	Planned group size	LP	
	12.1	V	Insect Diversity Assessment	3223371	Required	2 hours per week 30 hours	60 hours	25	3		
	12.2	LÜ	Insect Diversity Assessment	3223372	Compulsory	2 hours per week 30 hours	60 hours	25	3		
2	Learning outcomes / Competences 3223371 - Insect Diversity Assessment (V) The students - gain an overview of the diversity and phylogeny of insects 3223372 - Insect Diversity Assessment (LÜ) The students - learn about the morphology and phylogeny of insects - can allocate insects to taxa - can identify insects using keys - know and can use insect assessment methods										
3	Contents 3223371 - Insect Diversity Assessment (V) - Introduction to insect diversity with overview of major taxa - Morphology and phylogeny of insects - Introduction to methods of insect assessment 3223372 - Insect Diversity Assessment (LÜ) - Practical course in insect morphology - Training in insect identification - Assessment of insects in the field										
4	Frequency of offering Only in the summer semester 3223371 - Insect Diversity Assessment (V) Only in the summer semester 3223372 - Insect Diversity Assessment (LÜ) Only in the summer semester										
5	Language of instruction 3223371 - Insect Diversity Assessment (V) English										

	3223372 - Insect Diversity Assessment (LÜ) English
6	Individual course requirements None
7	Examination Module exam Biodiversity and Assessment Methods for Insects as a term paper (written - 2 weeks)
8	Requirements for awarding credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Mr. apl. Prof. Thomas Wagner
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223371 - Insect Diversity Assessment (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223372 - Insect Diversity Assessment (LÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature 3223371 - Insect Diversity Assessment (V) • McGavin, G. C. 2001. Essential Entomology. Pp. 323. Oxford University Press. • Schoonhoven, L. M., v. Loon, J. J. A. & Dicke, M. 2008. Insect-Plant Biology, 2nd. ed. Pp. 421. Oxford University Press. • Daly, H. V., Doyen, J. T. & Purcell, A. H. 2014. Introduction to insect Biology and Diversity. Oxford University Press. 3223372 - Insect Diversity Assessment (LÜ) • McGavin, G. C. 2001. Essential Entomology. Pp. 323. Oxford University Press. • Schoonhoven, L. M., v. Loon, J. J. A. & Dicke, M. 2008. Insect-Plant Biology, 2nd. ed. Pp. 421. Oxford University Press. • Daly, H. V., Doyen, J. T. & Purcell, A. H. 2014. Introduction to insect Biology and Diversity. Oxford University Press.
13	Use in study programme M.Sc. BioGeoSciences (20187) M.Sc. Applied Natural Sciences (20193)
14	Other information This module is offered irregularly. Please ask the responsible module representative before assigning the module. 3223371 - Insect Diversity Assessment (V)

This course can be included and credited in module 13 of the related to teaching
Master of Education Biology Gymnasium.

module 13 03BI2332				Biological Field Exercise				6 credit points Elective module				
Workload 180 hours					semester					Duration 1 term		
1	Courses					Compulsory/elective	Contact hours	Self-study	Planned group size	LP		
	13.1	S	Seminar on biological field exercises		3223321	Compulsory	2 hours per week 30 hours	60 hours	18	3		
	13.2	FÜ	Biological field exercise		3221122	Compulsory	3 hours per week 45 hours	45 hours	36	3		
2	Learning outcomes / Competences											
	3223321 - seminar on biological field exercises (S) Students - gain in-depth knowledge of a specific natural environment and its specific biotic community and its genesis. - are able to critically reflect on scientific articles and present their contents in the form of a lecture. 3221122 - Biological Field Exercise (FÜ) Students - gain in-depth knowledge of the biodiversity of various habitats through observation and demonstration using specific objects in the field.											
3	Contents											
	3223321 - seminar on biological field exercise (S) - Critical reflection on selected scientific articles related to the selected natural area. Independent development and presentation of selected topics on biotic communities and their genesis and protection in the target area. 3221122 - Biological field exercise (FÜ) - In-depth knowledge of the biodiversity of different habitats											
4	Frequency of offering											
	Only in the summer semester 3223321 - seminar on biological field exercise (S) Only in the summer semester 3221122 - Biological field exercise (FÜ) Only in the summer semester											
5	Language of instruction											
	3223321 - seminar on Biological Field Exercise (S)											

	German 3221122 - Biological field exercise (FÜ) German
6	Individual course requirements None
7	Examination Module exam Biological field exercise as term paper (written - 2 weeks) 3223321 - seminar on biological field exercise (S) coursework: Seminar presentation (oral – 20 min.)
8	Requirements for the award of credit points Passing the module exam 3223321 - seminar on biological field exercises (S) Passing the coursework
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr Klaus Fischer
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223321 - seminar on biological field exercises (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3221122 - Biological Field Exercise (FÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature To be announced separately depending on the natural environment.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other The tutorial takes place as a block course during the lecture-free period. In the elective area of the Master's programme, a maximum of one of the modules from 03BI2332 or 03GE2332 can be taken.

module 14 03BI2333		Case Study Biodiversity				6 credit points Elective module			
Workload 180 hours				semester			Duration 1 term		
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	14.1	S	Biodiversity	3223331	Compulsory	1 SWS 15 hours	45 hours	10	2
	14.2	P	Biodiversity	3223332	Compulsory	3 hours per week 45 hours	75 hours	10	4
2	Learning outcomes / Competences 3223331 - Biodiversity (S) The students - gain in-depth knowledge on literature review and evaluation with respect to current scientific topics in biodiversity, - demonstrate advanced knowledge of processing and presenting scientific results. 3223332 - Biodiversity (P) The students - gain advanced knowledge in hypothesis testing, experimental design, and carrying out a scientific project in the context of biodiversity research, - gain advanced knowledge in data management and analysis and the presentation of scientific data, - gain advanced knowledge in scientific writing.								
3	Contents 3223331 - Biodiversity (S) - Discussing and critically reflecting on scientific topics in biodiversity research, - processing and presenting scientific results (talk). 3223332 - Biodiversity (P) - Planning and carrying out a scientific project in the context of biodiversity research, - analysis of own data, - writing a protocol in the style of a scientific publication.								
4	Frequency of offering Every term 3223331 - Biodiversity (S) Every term 3223332 - Biodiversity (P) Every term								
5	Language of instruction 3223331 - Biodiversity (S) English								

	3223332 - Biodiversity (P) English
6	Individual course requirements None
7	Examination Module exam Case study on biodiversity as a term paper (written – 4 weeks)
8	Requirements for awarding credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr Klaus Fischer
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223331 - Biodiversity (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223332 - Biodiversity (P) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature To be announced separately.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information The module is offered by various examiners authorised to conduct examinations for the study programme. Please refer to separate announcements.

module 15 03BI2334		Case Study Terrestrial Ecology				6 credit points Elective module			
Workload 180 hours		semester				Duration 1 term			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	15.1	S	Terrestrial Ecology	3223341	Compulsory	1 SWS 15 hours	45 hours	10	2
	15.2	P	Terrestrial Ecology	3223342	Compulsory	3 hours per week 45 hours	75 hours	10	4
2	Learning outcomes / Competences 3223341 - Terrestrial Ecology (S) The students - gain in-depth knowledge on literature review and evaluation with respect to current scientific topics in terrestrial ecology, - develop advanced knowledge on processing and presenting scientific results. 3223342 - Terrestrial Ecology (P) The students - gain advanced knowledge in hypothesis testing, experimental design, and carrying out a scientific project in the context of terrestrial ecology research, - gain advanced knowledge in data management and analysis and the presentation of scientific data, - gain advanced knowledge in scientific writing.								
3	Contents 3223341 - Terrestrial Ecology (S) - Discussing and critically reflecting on scientific topics in terrestrial ecology research, - processing and presenting scientific results (talk). 3223342 - Terrestrial Ecology (P) - Planning and carrying out a scientific project in the context of terrestrial ecology, - analysis of own data, - writing a protocol in the style of a scientific publication.								
4	Frequency of offering Every term 3223341 - Terrestrial Ecology (S) Every term 3223342 - Terrestrial Ecology (P) Every term								
5	Language of instruction 3223341 - Terrestrial Ecology (S) English								

	3223342 - Terrestrial Ecology (P) English
6	Individual course requirements None
7	Examination formats Module exam Case Study Terrestrial Ecology as a term paper (written - 4 weeks)
8	Requirements for awarding credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr Klaus Fischer
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223341 - Terrestrial Ecology (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223342 - Terrestrial Ecology (P) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature To be announced separately.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information The module is offered by various examiners authorised to conduct examinations for the study programme. Please pay attention to separate announcements.

module 16 03BI2335 module		Case Study Aquatic Ecology				6 credit points Compulsory elective			
Workload 180 hours		semester				Duration 1 term			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	16.1	S	Aquatic Ecology	3223351	Compulsory	1 SWS 15 hours	45 hours	10	2
	16.2	P	Aquatic Ecology	3223352	Compulsory	3 hours per week 45 hours	75 hours	10	4
2	Learning outcomes / Competences 3223351 - Aquatic Ecology (S) The students - gain in-depth knowledge on literature review and evaluation with respect to current scientific topics in aquatic ecology, - develop advanced knowledge on processing and presenting scientific results. 3223352 - Aquatic Ecology (P) The students - gain advanced knowledge in hypothesis testing, experimental design, and carrying out a scientific project in the context of aquatic ecology, - gain advanced knowledge in data management and analysis and the presentation of scientific data, - gain advanced knowledge in scientific writing.								
3	Contents 3223351 - Aquatic Ecology (S) - Discussing and critically reflecting on scientific topics in aquatic ecology research, - processing and presenting scientific results (talk). 3223352 - Aquatic Ecology (P) - Planning and carrying out a scientific project in the context of aquatic ecology, - analysis of own data, - writing a protocol in the style of a scientific publication.								
4	Frequency of offering Every term 3223351 - Aquatic Ecology (S) Every term 3223352 - Aquatic Ecology (P) Every term								
5	Language of instruction 3223351 - Aquatic Ecology (S) English								

	3223352 - Aquatic Ecology (P) English
6	Individual course requirements None
7	Examination formats Module exam Case Study Aquatic Ecology as a term paper (written - 4 weeks)
8	Requirements for the award of credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Dr Carola Winkelmann
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223351 - Aquatic Ecology (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223352 - Aquatic Ecology (P) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature To be announced separately.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information The module is offered by various examiners authorised to conduct examinations for the study programme. Please pay attention to separate announcements.

module 17 03BI2336 module		Case Study Tropical Ecology				6 credit points Compulsory elective			
Workload 180 hours		semester				Duration 1 term			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	17.1	S	Tropical Ecology	3223361	Compulsory	1 SWS 15 hours	45 hours	10	2
	17.2	P	Tropical Ecology	3223362	Compulsory	3 hours per week 45 hours	75 hours	10	4
2	Learning outcomes / Competences 3223361 - Tropical Ecology (S) The students - gain in-depth knowledge on literature review and evaluation with respect to current scientific topics in tropical ecology, - develop advanced knowledge on processing and presenting scientific results. 3223362 - Tropical Ecology (P) The students - gain advanced knowledge in hypothesis testing, experimental design, and carrying out a scientific project in the context of tropical ecology research, - gain advanced knowledge in data management and analysis and the presentation of scientific data, - gain advanced knowledge in scientific writing.								
3	Contents 3223361 - Tropical Ecology (S) - Discussing and critically reflecting on scientific topics in tropical ecology research, - processing and presenting scientific results (talk). 3223362 - Tropical Ecology (P) - Planning and carrying out a scientific project in the context of tropical ecology, - analysis of own data, - writing a protocol in the style of a scientific publication.								
4	Frequency of offering Every term 3223361 - Tropical Ecology (S) Every term 3223362 - Tropical Ecology (P) Every term								
5	Language of instruction 3223361 - Tropical Ecology (S) English								

	3223362 - Tropical Ecology (P) English
6	Individual course requirements None
7	Examination Module exam Case Study Tropical Ecology as a term paper (written - 4 weeks)
8	Requirements for awarding credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr Eberhard Fischer
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223361 - Tropical Ecology (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223362 - Tropical Ecology (P) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature To be announced separately.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information The module is offered by various examiners authorised to conduct examinations for the study programme. Please pay attention to separate announcements.

module 18 03GE2332 module				Regional Geography				6 credit points Compulsory elective				
Workload 180 hours					semester				Duration 1 term			
1	Courses					Compulsory/elective	Contact hours	Self-study	Planned group size	LP		
	18.1	E	Study trip abroad (10 days)		3421094	Compulsory	10 hours per week 100 hours	50 hours	18	5		
	18.2	S	Regional geography for foreign excursions		3423322	Compulsory	0. SWS 7.5 hours	22.5 hours	18	1		
2	Learning outcomes / Competences											
	3421094 - Field trip abroad (10 days) (E) Students - can question self-images/external images in the context of intercultural learning, recognise and respect "the other", break down prejudices and question their own position - can observe in a hypothesis-driven manner, recognise, interpret and explain structures - can apply geographical theories and specialist knowledge to space and systematically explore landscape and society - are proficient in the independent content-related and methodological preparation, implementation and reflection of individual sections of a geographical excursion 3423322 - Regional Geography for Foreign Excursions (S) Students - can transfer and apply key human and physical geography questions and problems to a region outside Germany - can identify regional significant locations of human geography and physical geography abroad and explore them thematically in a coherent manner											
3	Contents											
	3421094 - Field trip abroad (10 days) (E) - Theoretical, methodological and regional geographical preparation for the excursion area (examples from European and non-European countries) - Regional geographical overview of the excursion area - Classification within global spatial structures (e.g. geozones, landscape belts, economic areas, cultural areas, state systems) - Globalisation and its landscape ecological and socio-spatial effects - Specific regional geographical topics and content (e.g. resource use, environmental degradation, social conflicts, migration, urbanisation and urbanisation) 3423322 - Regional geography for foreign excursions (S) - Characteristics of regional geography work in the field - Selected sub-regions in their human and physical geographical interaction - Recording of regionally significant geographical objects and locations outside Germany											
4	Frequency of offering											
	Every term											

	3421094 - Field trip abroad (10 days) (E) Every term 3423322 - Regional geography for the excursion abroad (S) every term
5	Language of instruction 3421094 - Field trip abroad (10 days) (E) German 3423322 - Regional geography for the excursion abroad (S) German
6	Individual course requirements None
7	Examination formats Module exam in regional geography as a single examination (practical – 120 minutes)
8	Requirements for awarding credit points Passing the module exam 3421094 - Field trip abroad (10 days) (E) Proof of participation in the field trip abroad in 3421094
9	Weighting of the final grade 6/120 of the study programme
10	Module coordinator Dr Thomas Brühne
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3421094 - Field trip abroad (10 days) (E) faculty 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423322 - Regional Geography for International Field Trip (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography
12	Literature Will be announced in the relevant courses.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information In the elective area of the Master's programme, a maximum of one of the modules from 03BI2332 or 03GE2332 can be taken.

module 19 03GE2333					Regional and Spatial Planning					6 credit points Elective module		
Workload 180 hours					semester					Duration 1 term		
1	Courses					Compulsory/elective	Contact time	Self-study	Planned group size	LP		
	19.1	Ü	Regional and spatial planning	3421131	Compulsory	2 hours per week 30 hours	150 hours	30	6			
2	Learning outcomes / Competences 3421131 - Regional and Spatial Planning (Ü) Students - understand the areas of responsibility of spatial and landscape planning and have a command of the relevant technical terminology - are familiar with the framework conditions and procedures of spatial and landscape planning - can analyse a specific area from a planning perspective, critically examine planning drafts/planning concepts and identify possible alternatives - explain geo-ecological, social and economic measures for sustainable development and the protection of spaces											
3	Contents 3421131 - Regional and spatial planning (Ü) - Management of spatial planning processes - Hierarchy of spatial planning - Regional development programmes and regional development plans - Regional planning - Land use plan and development plan - Sustainable spatial and landscape planning - Nature conservation and environmental protection - Landscape conservation - Federal Nature Conservation Act											
4	Frequency of offering Only in the summer semester 3421131 - Regional and Spatial Planning (Ü) Only in the summer semester											
5	Language of instruction 3421131 - Regional and Spatial Planning (Ü) German											
6	Individual course requirements None											
7	Types of examinations module exam in regional and spatial planning in the form of Term paper in the form of a presentation											

	(written – 2 weeks)
8	Requirements for the award of credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr Bernhard Köppen
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3421131 - Regional and Spatial Planning (Ü) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography
12	Literature Will be announced in the relevant courses.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information

module 20 03GE2334		Society-Environment Research				6 credit points Elective module					
Workload 180 hours				semester				Duration 1 term			
1	Courses					Compulsory/elective	Contact hours	Self-study	Planned group size	LP	
	20	S	Human-environment interaction	3421141	Compulsory	2 hours per week 30 hours	150 hours	17	6		
2	Learning outcomes / Competences 3421141 - Human-Environment Interaction (S) Students - are familiar with integrative issues in society-environment research and can embed these in the current state of research. - record and analyse the interactions between humans and the environment using examples of their own choosing - can classify the core topics of human-environment interaction at different levels of scale and develop integrative solutions - are able to create a concept map on a self-selected topic of human-environment interaction - can present a concept map they have created themselves in a scientific lecture										
3	Contents 3421141 - Human-environment interaction (S) - Integrative questions (human geography and physical geography) - Case studies of regional human-environment interactions - Syndromes of global change - Globalisation and regionalisation - Global change - Global and regional environmental problems - sustainability - Climate change - Resilience and Vulnerability										
4	Frequency of offering Only in the summer semester 3421141 - Human-Environment Interaction (S) Only in the summer semester										
5	Language of instruction 3421141 - Human-Environment Interaction (S) German										
6	Individual course requirements None										
7	Examination formats Module exam Society-Environment-Research as a single examination (oral - 30 min.)										

8	Requirements for awarding credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Dr Thomas Brühne
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3421141 - Human-Environment Interaction (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography
12	Literature Will be announced in the relevant courses.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information

module 21 03GE2337		Case Study Geoecology				6 credit points Elective module			
Workload 180 hours		semester				Duration 1 term			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	21	S	Geoecology	3423371	Compulsory	1 SWS 15 hours	45 hours	15	2
	21.2	P	Geoecology	3423372	Compulsory	3 hours per week 45 hours	75 hours	15	4
2	Learning outcomes / Competences 3423371 - Geoecology (S) The students • know the concept and methodological steps of a geoecological case study • are able to discuss geoecological hypotheses and problems both within a team and between teams • are able to present (partial) results of a geoecological case study 3423372 - Geoecology (P) The students • are able to apply theoretical learning content to a practice-relevant analysis of a real ecosystem compartment • are able to independently assess field data and conduct laboratory analyses on the basis of a suitable preselection of field and laboratory methods • are able to identify, determine and analyse connections and relationships between different geoecological issues								
3	Contents 3423371 - Geoecology (S) • Conception and planning of a geoecological case study • Data preparation • Discussion and scientific reflection of geoecological problems and results 3423372 - Geoecology (P) • Processing a given geoecological problem • Own assessments and analyses in a spatially defined study area								
4	Frequency of offering Only in the summer semester 3423371 - Geoecology (S) Only in the summer semester 3423372 - Geoecology (P) Only in the summer semester								
5	Language of instruction 3423371 - Geoecology (S)								

	English 3423372 - Geoecology (P) English
6	Individual course requirements None
7	Examination formats Module exam Case Study Geoecology as a term paper (written - 2 weeks)
8	Requirements for the award of credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Dr Michael Tempel
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423371 - Geoecology (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423372 - Geoecology (P) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography
12	Literature Specific, depending on topic. Will be announced during class.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information

module 22 03GE2338		Case Study Regional Development				6 credit points Elective module			
Workload 180 hours		semester				Duration 1 term			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	22	S	Regional Development	3423381	Compulsory	1 SWS 15 hours	45 hours	15	2
	22.2	P	Regional Development	3423382	Compulsory	3 hours per week 45 hours	75 hours	15	4
2	Learning outcomes / Competences 3423381 - Regional Development (S) Students - identify and develop research topics in human geography; individually design and carry out research on regional development; are able to analyse facts in human geography and related disciplines with particular focus on society and social factors 3423382 - Regional Development (P) Students - are able to understand, analyse and interpret maps, aerial photography, data and literature related to the case study are able to correctly apply suitable methods in human geography in data collection and empirical research critically assess, interpret, edit and present their own results								
3	Contents 3423381 - Regional Development (S) - Regulation and processes in spatial planning Regional planning and regional development Internal and external factors in regional development Concepts for regional development in different regions 3423382 - Regional Development (P) - Conceptual design, planning and implementation of a case study on regional development with a focus on human geography Analysing multi-layered structures in human geography (e.g. structures of urban and rural settlements, brownfield revitalisation, population structures, migration, rural and urban spaces)								
4	Frequency of offering Only in the winter semester 3423381 - Regional Development (S) Only in the winter semester 3423382 - Regional Development (P) Only in the winter semester								
5	Language of instruction 3423381 - Regional Development (S) English								

	3423382 - Regional Development (P) English
6	Individual course requirements None
7	Examination Module exam Case Study Regional Development as a term paper (written - 2 weeks)
8	Requirements for the award of credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr Bernhard Köppen
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423381 - Regional Development (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423382 - Regional Development (P) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography
12	Literature Specific, depending on topic. Will be announced during class.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information

module 23 03GE2339		Case Study Human and Environment				6 credit points Elective module			
Workload 180 hours		semester				Duration 1 term			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	23	S	Human and Environment	3423391	Compulsory	1 SWS 15 hours	45 hours	15	2
	23.2	P	Human and Environment	3423392	Compulsory	3 hours per week 45 hours	75 hours	15	4
2	Learning outcomes / Competences 3423391 - Human and Environment (S) Students - are familiar with state-of-the-art research on society-environment interaction and interdependency measure and analyse human-environment interdependencies by studying an individually selected example 3423392 - Human and Environment (P) Students - are aware of human-environment interaction related regional impact are able to identify significant places of human-environment interaction and conduct analysis on site are able to demonstrate and present potential human-environment effects in the field Content								
3	Contents 3423391 - Human and Environment (S) - Integrative perspective (Human Geography and Physical Geography) Global change Sustainability Climate change Vulnerability and resilience 3423392 - Human and Environment (P) - Case studies of regional human-environment interaction Industrialisation and structural change Globalisation and regionalisation Global and regional environmental problems								
4	Frequency of offering Only in the summer semester 3423391 - Human and Environment (S) Only in the summer semester 3423392 - Human and Environment (P) Only in the summer semester								
5	Language of instruction 3423391 - Human and Environment (S) English 3423392 - Human and Environment (P)								

	English
6	Individual course requirements None
7	Examination Module exam Case Study Human and Environment as a term paper (written - 2 weeks)
8	Requirements for the awarding of credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr Bernhard Köppen
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423391 - Human and Environment (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 3423392 - Human and Environment (P) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography
12	Literature Specific, depending on topic. Will be announced during class.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information

module 24 03BI2343 module					Freshwater ecology					6 credit points Compulsory		
Workload 180 hours					semester N/A					Duration 1 term		
1	Courses					Compulsory/elective	Contact hours	Self-study	Planned group size	LP		
	24.1	V	Concepts of stream ecology			3223431	Compulsory	2 hours per week 30 hours	60 hours	30	3	
	24.2	S	Literature seminar			3223433	Compulsory	2 hours per week 30 hours	60 hours	30	3	
2	Learning outcomes / Competences											
	3223431 - Concepts of stream ecology (V) The students - understand the structure and function of freshwater ecosystems - possess in-depth biological and ecological knowledge - are able to apply biological and ecological knowledge to stream ecosystems - understand the interaction of environmental factors and organisms in stream ecosystems - understand nutrient cycles in stream ecosystems - are able to identify and assess the impact of anthropogenic altered environmental factors on aquatic ecosystems 3223433 - Literature seminar (S) The students - are capable of searching for and selecting relevant scientific literature on specific topics - have the skill to understand and critically assess the results in scientific papers - are able to present complex scientific content in an English lecture clearly, logically and comprehensibly - are able to critically discuss the presented content based on their own and their peers' lectures											
3	Contents											
	3223431 - Concepts of stream ecology (V) - structure and function of stream ecosystems - concepts of ecological processes and interactions - specific methods in stream ecology - anthropogenic impacts and their remediation 3223433 - Literature seminar (S) - structure and function of stream ecosystems - concepts of ecological processes and interactions - specific methods in stream ecology - anthropogenic impacts and their remediation											
4	Frequency of offering											
	Only in the summer semester 3223431 - Concepts of stream ecology (V) Only in the summer semester											

	3223433 - Literature seminar (S) Only in the summer semester
5	Language of instruction 3223431 - Concepts of stream ecology (V) English 3223433 - Literature seminar (S) English
6	Individual course requirements
7	Examination formats Module exam Freshwater ecology as a term paper (written - 2 weeks) 3223431 - Concepts of stream ecology (V) Coursework: written exam (45 minutes) Prerequisites
8	for the award of credit points
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator PD Dr Carola Winkelmann
11	Responsible institution 3223431 - Concepts of stream ecology (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223433 - Literature seminar (S) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature • Lampert & Sommer 2007 Limnoecology: The Ecology of Lakes and Streams, 2nd edition, Oxford University Press • Moss (2010) Ecology of Fresh Waters: A View for the Twenty-First Century, 4th Edition, Wiley-Blackwell
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information

module 25 03BI2344		Ecophysiology and ecosystem services of aquatic microorganisms					6 credit points Elective module			
Workload 180 hours				semester N/A			Duration 1 term			
1	Courses					Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	25	V	Ecophysiology and ecosystem services of aquatic microorganisms	3223441	Compulsory	2 SWS 30 hours	60 hours	30		3
	25.2	Ü	Ecophysiology and ecosystem services of aquatic microorganisms	3223442	Compulsory	2 SWS 30 hours	60 hours	30		3
2	Learning outcomes / Competences									
	3223441 - Ecophysiology and ecosystem services of aquatic microorganisms (V)									
	The students									
	• have profound knowledge of the ecophysiological traits of aquatic microorganisms • are able to explain the role microorganisms play in ecosystem functioning and the provision of ecosystem services in aquatic systems • are in a position to consider the ecophysiological potential and metabolic power of microorganisms with regard to applied problem solving • are able to grasp the significance of microbial activity in the scope of governmental activities and the definition of guideline values and quality targets									
	3223442 - Ecophysiology and ecosystem services of aquatic microorganisms (Ü)									
	The students									
	• have the skill to present orally and in writing the results of scientific studies (including analysis and prognoses) • are capable of discussing in a factual and professional manner and expressing constructive criticism • are able to evaluate and revise their own work by means of discussion and by considering comments and recommendations made by peers and instructors									
3	Contents									
	3223441 - Ecophysiology and ecosystem services of aquatic microorganisms (V)									
	Ecophysiological traits of microorganisms and the ecosystem services they provide result from their adaptation to specific environmental conditions. This course imparts extensive and in-depth knowledge concerning these phenomena. The relationship between ecophysiology and metabolic performance and its impact on the environment and ecosystem services are demonstrated using selected examples such as:									
	• microorganisms of the nitrogen cycle and the transformation of nitrogen compounds in aquatic ecosystems and wastewater treatment plants • the role of bacteria in the production and treatment of drinking water • microbial degradation of natural biopolymers and organic (micro)pollutants • extracellular electron transport and its importance for metabolic turnover and element cycling • horizontal gene transfer and the spread of (resistance) genes									

	3223442 - Ecophysiology and ecosystem services of aquatic microorganisms (Ü) The students are instructed to work on a specific problem within the field of ecophysiology and ecosystem services in a scientifically sound and valid manner, to prepare a presentation and to revise it in a process similar to peer reviewing of scientific publications. The course includes: - the independent elaboration of a specific topic based on a scientific publication (in small groups) - the preparation of a presentation and acquisition of knowledge relevant for the discussion of the selected topic (in small groups) - presentation and discussion of the works within the whole group - a revision based on comments expressed in discussions and a subsequent final presentation
4	Frequency of the course Only in the summer semester 3223441 - Ecophysiology and ecosystem services of aquatic microorganisms (V) Only in the summer semester 3223442 - Ecophysiology and ecosystem services of aquatic microorganisms (Ü) Only in the summer semester
5	Language of instruction 3223441 - Ecophysiology and ecosystem services of aquatic microorganisms (V) English 3223442 - Ecophysiology and ecosystem services of aquatic microorganisms (Ü) English
6	Individual course requirements
7	Examination Module part examination Ecophysiology and ecosystems of aquatic microorganisms (V) as not specified (written - 2 weeks) Module examination Ecophysiology and ecosystems of aquatic microorganisms (Ü) as not specified (written - 2 weeks)
8	Requirements for the award of credit points
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr. Werner Manz
11	Responsible institution 3223441 - Ecophysiology and ecosystem services of aquatic microorganisms (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223442 - Ecophysiology and ecosystem services of aquatic microorganisms (Ü) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature 3223441 - Ecophysiology and ecosystem services of aquatic microorganisms (V)

	• Allan, Castillo (2007) Stream Ecology. Springer, Dordrecht • Fuchs (ed.) (2017) General Microbiology. Thieme, Stuttgart • Madigan, Martinko, Stahl, Clark (2013) Brock Microbiology. Pearson Studium, Munich • Maier, Pepper, Gerba (2009) Environmental Microbiology. Academic Press Elsevier, London Further literature will be provided at the beginning of each course. 3223442 - Ecophysiology and ecosystem services of aquatic microorganisms (Ü) • Allan, Castillo (2007) Stream Ecology. Springer, Dordrecht • Fuchs (ed.) (2017) General Microbiology. Thieme, Stuttgart • Madigan, Martinko, Stahl, Clark (2013) Brock Microbiology. Pearson Studium, Munich • Maier, Pepper, Gerba (2009) Environmental Microbiology. Academic Press Elsevier, London Further literature will be provided at the beginning of each course.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information

module 26 03Bi2341		Ecological Water Assessment				6 credit points Elective module			
Workload 180 hours		semester 2nd term (recommended)				Duration 2 terms			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	26	Ü	Identification exercises	3223411	Compulsory	2 hours per week 30 hours	60 hours	20	3
	26.2	FÜ	Water assessment	3223412	Compulsory	2 SWS 30 hours	60 hours	20	3
2	Learning outcomes / Competences 3223411 - Identification exercises (exercise) The students - acquire in-depth taxonomic and ecological knowledge of aquatic animal groups as well as practical skills in the field of identification 3223412 - Water Assessment (FÜ) Students - are able to assess the ecological quality of watercourses in accordance with the requirements of the Water Framework Directive and interpret the results								
3	Contents 3223411 - Identification exercises (Ü) - Identification of invertebrates aquatic organisms (macrozoobenthos), Autoecological characterisation of treated animal groups 3223412 - Water body assessment (FÜ) - Implementation of structural quality mapping, evaluation of mapping results - Carrying out water body assessment of the quality component macrozoobenthos, evaluation and interpretation of the results								
4	Frequency of offering From winter semester 3223411 - Identification exercises (Ü) only in the winter semester 3223412 - Water body assessment (FÜ) only in the summer semester								
5	Language of instruction 3223411 - Identification exercises (Ü) German 3223412 - Water body assessment (FÜ)								

	German
6	Individual course requirements None
7	Examination formats Module exam Ecological water assessment as a group exam (practical – 90 min.) 3223412 - Water Assessment (FÜ) Relevant for the examination coursework: Relevant for the examination coursework: Preparation, implementation and evaluation of all experiments (written and practical – 2 weeks)
8	Requirements for the award of credit points Passing the module exam 3223412 – Water body assessment (FÜ) Passing the examination-relevant coursework
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Dr Carola Winkelmann
11	Responsible institution FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences 3223411 - Identification Exercises (Ü) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences 3223412 - Water Assessment (FÜ) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences
12	Literature Will be announced during the course.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information 3223412 - Water Assessment (FÜ) Block course in the summer semester

module 27 03BI2342		Experimental design and data analysis				6 credit points Elective module			
Workload 180 hours		semester 3rd term (recommended)				Duration 1 term			
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
	27	V	Experimental design and data analysis	3223421	Compulsory	2 hours per week 30 hours	60 hours	10	3
	27.2	Ü	Experimental design and data analysis	3223422	Compulsory	2 hours per week 30 hours	60 hours	10	3
2	Learning outcomes / Competences 3223421 - Experimental Design and Data Analysis (V) Students - acquire in-depth knowledge of experimental design and statistical experimental design. - gain in-depth knowledge of data processing, evaluation and visualisation - acquire knowledge of simple ecological models and multivariate statistical methods 3223422 - Experimental Design and Data Analysis (Ü) Students - are able to plan experiments independently, taking into account the requirements of statistical analysis methods - can import, process and evaluate collected data in statistical programmes - are able to independently distinguish between simple and multivariate statistical test procedures and perform them on a PC in an application-oriented manner								
3	Contents 3223421 - Experimental Design and Data Analysis (V) - Experimental design and statistical experimental design - Data processing and analysis, exploratory data analysis - Simple statistical and ecological models - Multivariate statistical methods 3223422 - Experimental Design and Data Analysis (Ü) - Planning simple experiments - Practical use of computer programmes (Excel, R) - Software-supported data processing, analysis and visualisation - Documentation in data processing and creation of metadata								
4	Frequency of offering Only in the summer semester 3223421 - Experimental design and data analysis (V) Only in the summer semester 3223422 - Experimental Design and Data Analysis (Ü) Only in the summer semester								

5	Language of instruction 3223421 - Experimental Design and Data Analysis (V) German 3223422 - Experimental Design and Data Analysis (Ü) German
6	Individual course requirements None
7	Examination formats Module exam in experimental design and data analysis as an exam (written - 90 minutes)
8	Requirements for awarding credit points Passing the module exam
9	Significance of the final grade 6/120 of the study programme
10	Module coordinator Prof. Dr Klaus Fischer
11	Responsible institution 3223421 - Experimental Design and Data Analysis (V) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology 3223422 - Experimental Design and Data Analysis (Ü) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology
12	Literature To be announced separately.
13	Use in study programme M.Sc. BioGeoSciences (20187)
14	Other information Two-week block course during the lecture-free period. Please pay attention to separate announcements.

final thesis

BiG-KA		Master's thesis				30 credit points Compulsory module			
Workload 900 hours				semester 4th term (recommended)			Duration 1 term		
1	Courses				Compulsory/elective	Contact hours	Self-study	Planned group size	LP
		A	Master's thesis in BioGeoSciences	03XX2390	Compulsory	0 hours per week 0 hours	810 hours	0	27
		A	Oral final examination	03XX2399	Compulsory	0 hours per week 0 hours	90 hours	0	3
2	Learning outcomes / Competences								
	03XX2390 - Master's Thesis in BioGeoSciences (A) The students • can apply theoretical knowledge in a guided biogeoscientific case study • have the ability to record and complex complex (landscape) ecological relationships • have the ability to assess current conditions and predict changes in limnic-terrestrial ecosystems • are able to collect valid scientific data in the field and in the laboratory • are able to work with databases, statistically process data and present it in the form of tables, diagrams, maps and text • have the ability to weigh up ecological and socio-economic requirements • are able to conduct research in the field of biogeosciences • have the ability to present the results of scientific analyses and forecasts in writing 03XX2399 - Oral final examination (A) Students • are able to reflect on the guided biogeoscience case study • have the ability to written and oral presentation of results of scientific analyses and forecasts								
3	Contents								
	03XX2390 - Master's thesis in BioGeoSciences (A) The Master's thesis is an examination paper designed to demonstrate that candidates are able to familiarise themselves with a biogeoscientific issue, solve it independently with appropriate guidance, and present the results in writing. The topic is selected in consultation between the candidates and their supervisors. 03XX2399 - Oral final examination (A)								

	The Master's examination covers the topic of the Master's thesis, i.e. the methods used, the results and a discussion of the results, taking into account the relevant scientific literature.
4	Frequency Every term 03XX2390 - Master's thesis in BioGeoSciences (A) Every term 03XX2399 - Oral final examination (A) Every term
5	Language of instruction 03XX2390 - Master's thesis in BioGeoSciences (A) German 03XX2399 - Oral final examination (A) German
6	Individual course requirements 03XX2390 - Master's thesis in BioGeoSciences (A) In accordance with § 14 of the examination regulations for the Bachelor's and Master's degree programmes in BioGeoSciences, students are granted admission to write a Master's thesis if they 1. have earned at least 75 credit points and 2. has agreed on a preliminary topic for a Master's thesis with a supervisor. 03XX2399 - Oral final examination (A) Competences from module 03XX2390
7	Types of examination Master's thesis in BioGeoSciences as an individual examination (written - 1) Oral final examination as an individual examination (oral - 1)
8	Requirements for the award of credit points 03XX2390 - Master's thesis in BioGeoSciences (A) Submission of a Master's thesis of appropriate length in German or English after a processing period of 6 months. Passing the Master's thesis in accordance with § 14 of the regulations for examinations in the Bachelor's and Master's programmes in BioGeoSciences. 03XX2399 - Oral final examination (A) Passing the oral final examination in accordance with § 15 of the regulations for examinations in the Bachelor's and Master's programmes in BioGeoSciences
9	Significance of the final grade 30/120 of the study programme
10	Module coordinator Prof. Dr Klaus Fischer
11	Responsible institution

	03XX2390 - Master's Thesis in BioGeoSciences (A) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography 03XX2399 - Oral final examination (A) FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Biology FB 3 - Mathematics / Natural Sciences -> Institute of Integrated Natural Sciences -> Geography
12	Literature Depending on the topic, according to own literature search.
13	Use in study programme
14	Other information The Master's thesis in BioGeoSciences (03XX2390) and the oral final examination (03XX2399) can be completed in German or English in accordance with § 14 (6) and § 15 (3). 03XX2390 - Master's thesis in BioGeoSciences (A) The supervision of the Master's thesis is carried out by a person from the group of persons authorised to conduct examinations in accordance with § 4 (1) of the examination regulations. Within this framework, the supervising lecturer can be freely chosen. 03XX2399 - Oral final examination (A) The 30-minute examination is conducted by the supervisor of the Master's thesis and two additional examiners appointed by the examination board (examination committee in accordance with § 15 (2) of the examination regulations).

