LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

Module Catalogue

Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

(120 ECTS-Credits)

Based on the Prüfungs- und Studienordnung of 14 November 2014.

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Abbreviations and annotations

CP	Credit Points, ECTS credits
ECTS	European Credit Transfer and Accumulation System
h	hours
SoSe	summer semester
SWS	contact hours
WiSe	winter semester
WP	compulsory elective course
P	mandatory course

1. The ECTS credits assigned in the Module Catalogue are designated as follows: Credit Points not listed in parentheses are awarded when the pertinent examination of the module or module parts have/has been completed successfully. Credit Points in parentheses are listed for calculatory purposes only.

2. The semester for taking a module can either be binding or may be considered as a recommendation, depending on the applicable data in Anlage 2 of the Prüfungs- und Studienordnung for your Programme. In this Module catalogue, the options are indicated as „scheduled semester“ and „recommended semester“.

3. Please note: The Module Catalogue is merely intended to serve as an orientation whereas the provisions of the applicable version of the Prüfungs- und Studienordnung (in German only) of your Programme are legally binding. See: www.lmu.de/studienangebot and select your Programme.

4. The detailed contents and the suggested literature may change often in some modules. Information about recommended literature of these modules will be provided by each individual instructor at the beginning of the relevant semester in the form of a „course syllabus”, either in print or online.

Module: P 1 Paleobiology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	P 1.1 Evolution of Life: Lecture	WiSe	30 h (2 SWS)	60 h	(3)
Exercise course	P 1.2 Evolution of Life: Tutorial	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Mandatory module with mandatory courses.
Usability of the module in other Programmes	Master's Programme Geology
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	The module includes an interactive teaching program on the evolution of life in the seas and on land during the Phanerozoic. In addition, the program comprises principles of chronostratigraphy. In detail, the courses include the following contents: • P 1.1 Evolution of Life: Lecture The interactive program of the lectures focuses on selected papers published in international journals that are appropriate to illustrate the state of the art on the evolution of life and principles of chronostratigraphy. • P 1.2 Evolution of Life: Tutorial The exercises include analysis of fossils in the context of the lectures.

Learning outcomes	Students will be able to understand the interaction between evolution of life, palaeoclimate, palaeogeography and extinction events: By attending the lecture and the tutorial, they will gain insight in contemporary research on the possible interaction between processes of evolution and global or regional patterns of paleoclimate and paleogeography. Students will be familiar with the concept of chronostratigraphy.
Type of examination	Written exam or scientific journal. The definite exam modalities will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Bettina Reichenbacher
Language(s)	English
Additional information	

Module: P 2 Evolutionary Geobiology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	P 2.1 Systematics and Phylogenetics	WiSe	30 h (2 SWS)	60 h	(3)
Exercise course	P 2.2 Mechanisms of Evolution	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Mandatory module with mandatory courses.
Usability of the module in other Programmes	Master's Programme Geology
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Basics of evolution, systematics, phylogenetics. In detail, the courses include the following contents: • P 2.1 Systematics and Phylogenetics Basic concepts of classification and taxonomy, systematic and phylogenetic concepts, character evolution. • P 2.2 Mechanisms of Evolution Basics of Darwinian evolution: Natural selection, adaption, variation, units of evolution, evolutionary dynamics and patterns of evolution in space and time.
Learning outcomes	At the end of the module students are able to understand basic concepts of evolution, and should posses the

	theoretical background of phylogenetic reconstruction methods. The gained knowledge will enable the students to understand scientific publications related to the module topics: • P 2.1 Systematics and Phylogenetics The students will understand the basic principles of taxonomic classification and phylogenetic reconstruction to apply them in the future own projects and advanced lectures (e.g. P5.2, P7.1, WP12-15). • P 2.2 Mechanisms of Evolution The students will learn basic evolutionary biology concepts, which will enable them to understand scientific texts in the field and to apply this knowledge in future lectures.
Type of examination	Written exam or scientific journal. The definite exam modalities will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	PD Dr. Dirk Erpenbeck
Language(s)	English
Additional information	Recommended textbook: Evolution (3rd Edition), Futuyma, 2013, Sinauer Associates, 656 pp.

Module: P 3 Environmental Geobiology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	P 3.1 Global Cycles: Lecture	WiSe	30 h (2 SWS)	60 h	(3)
Exercise course	P 3.2 Global Cycles: Tutorial	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Mandatory module with mandatory courses.
Usability of the module in other Programmes	Master's Programme Geology
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Introduction to biogeochemical global cycles and methods to acquire and analyse geobiological data in this context. In detail, the courses include the following contents: • P 3.1 Global cycles: Lecture Theoretical background on biogeochemical global cycles of relevant elements like carbon, nitrogen, phosphorous and silica • P 3.2 Global cycles : Tutorial Basic concepts of data acquisition, calculation, and evaluation in geobiology.
Learning outcomes	At the end of the module students are familiar with the most recent reviews on the global cycles of carbon, nitrogen, phosphorous and silica. They are able to discuss

	geobiological alterations resulting from modified pool sizes and drifts in the magnitude of inputs or outputs. Furthermore, students will be able to apply theoretical background to understand data acquisition and data analysis in geobiology. This enables them to apply these methods in the future and to critically understand and evaluate related scientific publications.
Type of examination	Written exam or scientific journal. The definite exam modalities will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	N.N.
Language(s)	English
Additional information	

Module: P 4 Laboratory Methods

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	P 4.1 Methods in Paleobiology: Lecture	WiSe	30 h (2 SWS)	60 h	(3)
Exercise course	P 4.2 Methods in Paleobiology: Tutorial	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Mandatory module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Theoretical and practical introduction to laboratory methods in Geobiology and Palaeobiology. In detail, the courses include the following contents: • P 4.1 Methods in Paleobiology The students are introduced to laboratory methods in the field of Geobiology and Paleobiology. The theoretical background of the methods are explained and their application demonstrated with the help of exemplary studies. • P 4.2 Methods in Paleobiology: Tutorial Practical application of some of the methods presented in P 4.1 in the laboratories of the

	department.
Learning outcomes	At the end of the module the students are familiar with a range of methods applied in Geobiology and Paleobiology and know about the available equipment of the laboratories in the department. • P 4.1 Methods in Paleopbiology: Lecture The students will be familiar with the principles of the taught laboratory methods and can use this knowledge in their further studies. • P 4.2 Methods in Paleobiology: Tutorial The students can apply methods they learned in the practical part of the module and have a basic understanding of laboratory work.
Type of examination	Scientific protocol or poster. The definite exam modalities will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will not be graded (pass/fail).
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	PD Dr. Dirk Erpenbeck
Language(s)	English
Additional information	

Module: WP 1 Introduction into Basic Concepts in Geology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 1.1 Introduction into Basic Concepts in Geology: Lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	Two of the compulsary elective modules WP 1 – WP 4 must be taken.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Introduction to basic concepts in geology; for example: Plate tectonics, sedimentology, global geochemical cycles, stratigraphy, fossil record, marine thermohaline circulation, and paleoclimate
Learning outcomes	At the end of this module students should have complemented and expanded their knowledge about basic concepts, terminologies, and hypotheses in geology. The student should be capable to understand and interpret fundamental geological knowledge.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will not be graded (pass/fail).
Requirements for the gain of ECTS	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential

credits	elective compulsary module parts) has/have been completed successfully.
Responsible contact	N.N.
Language(s)	English

Additional information

Module: WP 2 Introduction into Advanced Concepts in Geology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 2.1 Introduction into Advanced Concepts in Geology: Lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	Two of the compulsary elective modules WP 1 – WP 4 must be taken.
Entry requirements	None
Semester	Scheduled semester: 1
Duration	The completion of the module takes 1 semester.
Content	The module includes a significant expansion of the student´s knowledge on modern concepts and methods in the field of geology such as stratigraphy, chronology, taphonomy, facies, and biogeochemistry.
Learning outcomes	Students will significantly expand their knowledge on concepts and methods in geology. They will be capable to understand, apply and critically assess geological knowledge and methods as found in scientific publications in the field.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will not be graded (pass/fail).
Requirements for the gain of ECTS	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential

credits	elective compulsary module parts) has/have been completed successfully.
Responsible contact	N.N.
Language(s)	English
Additional information	Alternatively, ECTS credits for WP2 can be gained by successfully attending courses of the section of Geology (currently: "Geochronology", 2 SWS). This can only be recommended to students with a geoscientific background.

Module: WP 3 Introduction into Basic Concepts in Biology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 3.1 Introduction into Basic Concepts in Biology: Lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	Two of the compulsary elective modules WP 1 – WP 4 must be taken.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Introduction to basic concepts in biology; for example: Origin and evolution of biological diversity, systematics and taxonomy, fundamentals of ecology, genetics, and general physiology and cell biology
Learning outcomes	At the end of this module students should have complemented and expanded their knowledge about basic concepts, terminologies, and theories in biology. The student should be capable to understand and interpret fundamental biological observations.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will not be graded (pass/fail).
Requirements for the gain of ECTS	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential

credits	elective compulsary module parts) has/have been completed successfully.
Responsible contact	Dr. Oliver Voigt
Language(s)	English
Additional information	This course should be attended to obtain or refresh basic biological concepts for students with little biological background in their academic education. Recommended textbooks: Campbell Biology (10th Edition), Reece, Urry et al., 2013, Benjamin Cummings, 1488 pp.; Principles of Life (2nd Edition), Hillis, Sadava et al., 2014, Sinauer Associates, 952 pp.

Module: WP 4 Introduction into Advanced Concepts in Biology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 4.1 Introduction into Advanced Concepts in Biology: Lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	Two of the compulsary elective modules WP 1 – WP 4 must be taken.
Entry requirements	None
Semester	Recommended semester: 1
Duration	The completion of the module takes 1 semester.
Content	Advanced topics in biology; for example: Methods in biological research, systematics and taxonomy, molecular and cellular biology, ecology, genetics, physiology and biochemistry.
Learning outcomes	At the end of this module students should have expanded their knowledge about biological concepts, theories and methodologies, and should be capable of applying them to the analysis of empirical data to critically evaluate published results in the field.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will not be graded (pass/fail).
Requirements for the gain of ECTS	ECTS credits will be granted when the module examination

credits	(or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	PD Dr. Dirk Erpenbeck
Language(s)	English
Additional information	Alternatively, ECTS credits for WP 4 can be gained by successfully attending courses of the faculty of Biology (currently: "Systematic Data Evidence, 2 SWS"). This can only be recommended to students with a biological background.

Module: P 5 Data analysis

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	P 5.1 Geostatistics	SoSe	30 h (2 SWS)	60 h	(3)
Exercise course	P 5.2 Phylogenetic Analysis of Morphological and Molecular Data	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	P 5.2: Evolutionary Genomics, Ecology and Systematics (EES), Master's Programme Biology (Faculty of Biology)
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Theoretical and practical background and application of data analyses in phylogeny and geostatistics: data types, data analysis, statistical methods, software for data analysis. In detail, the courses include the following contents: • P 5.1 Geostatistics Formulating and testing hypotheses in geobiology, observation, acquisition and analysis of relevant data, statistical background of data analysis. • P 5.2 Phylogenetic Analysis of Morphological and Molecular Data Introduction into the theoretical background of phylogenetic reconstruction methods with morphological or molecular characters. Relevant software will be introduced and applied by the

	students.
Learning outcomes	At the end of the module students will be able to understand and apply analytical tools to answer geo- and paleobiological questions. They will be able to critically evaluate statistical predicates. Students will remember the basics of phylogenetic reconstruction, enabling them to read and understand scientific publications applying these methods. The practical methods taught P 5.2 allow students to apply the gained background in the analyses or reanalysis of published or own data in the future.
Type of examination	Written exam or scientific protocol. The difinite exam modalitites will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	PD Dr. Dirk Erpenbeck
Language(s)	English
Additional information	

Module: P 6 Field Practical I

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Field exercise	P 6.1 Geobiology Field Practical	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Mandatory module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Methods of fieldwork in geobiology of exemplary geological settings; e.g.: Studying interactions of geological and biological systems, geological history and landscape development of the study area and its influence on the biological systems, analytical field methods and geobiological mapping
Learning outcomes	Students will remember geological and biological knowledge from previous lectures, recognize and combine concepts of geology and biology in examples in the field and apply them to an exemplary geobiological setting. After the module, students will be able to understand and apply field methods for own research questions, e.g., in the research project (P9) and their Master Thesis (P11).
Type of examination	Presentation or oral exam or written report on the field exercise. The definite exam modalitites will be announced at the beginning of the semester.

Type of assessment	The successful completion of the module will not be graded (pass/fail).
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Gert Wörheide
Language(s)	English
Additional information	Moderate costs for travelling, board and lodging will have to be covered by the student.

Module: P 7 Field Practical II

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Field exercise	P 7.1 Paleobiology Field Practical	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Mandatory module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Methods of fieldwork in paleobiology of exemplary geological settings; e.g.:Recognizing and description of the local facies, geological history of the study area and outcrops,paleoecology of a study area, analytical field methods, mapping and logging.
Learning outcomes	Students will remember paleontological and biological basics from previous lectures, recognize and combine concepts of paleontology and biology in examples in the field and apply them to an exemplary paleobiological setting. After the module, students will be able to understand and apply field methods for own research questions, e.g., in the research project (P9) and the Master Thesis (P11).
Type of examination	Presentation or oral exam or written report on the field exercise. The difinite exam modalitites will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will not be graded

	(pass/fail).
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Bettina Reichenbacher
Language(s)	English
Additional information	Moderate costs for travelling, board and lodging will have to be covered by the student.

Module: P 8 Scientific Presentation and Communication

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	P 8.1 Presentation and communication skills	SoSe	30 h (2 SWS)	60 h	(3)
Seminar	P 8.2 Seminar on Current Topics in Geo- and Paleobiology	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Mandatory module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	The module comprises a practical guideline for the preparation and finalisation of scientific contributions: Student are trained in preparing and giving oral scientific presentations and learn the different aspects of scientific discussions. They learn how to write the different parts of a scientific paper (abstract, introduction, material and methods, results, discussion and conclusion) and how to do literature search.
Learning outcomes	Students will learn how to design research articles, review articles, poster presentations and how to present oral communications: Students will be able to present and discuss oral

	communications about science. Furthermore, they will know the principles of writing a scientific paper and are able to conduct a literature search.
Type of examination	Presentation or moderation. The definite exam modalities will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will not be graded (pass/fail).
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Bettina Reichenbacher
Language(s)	English
Additional information	

Module: WP 5 Oceanology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 5.1 Oceanology: Lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	With regard to the compulsary elective modules WP 5 – WP 11, modules must be taken with a total value of 12 ECTS credits.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	- Basic oceanography (geography, geomorphology, plate tectonics and water circulation systems of oceans) - Physical and chemical factors in marine ecosystems - Adaptations of marine organisms - Geobiology of marine communities - Interaction of abiotic and biotic factors in different marine ecosystems - Marine biomes and marine biogeography
Learning outcomes	Students will develop an advanced understanding on the physical, geochemical and biological interactions in marine environments to be able to critically read technical and scientific publications on the topic.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will be graded.

Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Gert Wörheide
Language(s)	English
Additional information	Recommended textbook: Marine Biology: An Ecological Approach (6th Edition), Nybakken and Bertness, 2004, Benjamin Cummings

Module: WP 6 Paleoecology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 6.1 Paleoecology: Lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	
Elective guidelines	With regard to the compulsary elective modules WP 5 – WP 11, modules must be taken with a total value of 12 ECTS credits.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Introduction to concepts of paleoecology: Evolution of functional morphology in the fossil record, paleodiversity, paleoclimatology, ecosystem reconstruction.
Learning outcomes	Students will gain knowledge on the physical and biological factors that have shaped ecosystems in the past. After this module students will capable to critically read technical and scientific publications on the topic.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.

Responsible contact	Prof. Dr. Alexander Nützel
Language(s)	English

Additional information

Module: WP 7 Geobiological Field Exercises

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Field exercise	WP 7.1 Geobiological Field Exercises: Field Practical	SoSe	30 h (2 SWS)	150 h	(6)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	With regard to the compulsary elective modules WP 5 – WP 11, modules must be taken with a total value of 12 ECTS credits.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Advanced methods of fieldwork in geobiology of exemplary geological settings to address research questions.
Learning outcomes	Students will apply previously acquired knowledge on geobiology and paleobiology to own observations and research in the field.
Type of examination	Presentation or oral exam or written report on the field exercise. The definite exam modalities will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will not be graded (pass/fail).
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been

	completed successfully.
Responsible contact	Prof. Dr. Gert Wörheide
Language(s)	English
Additional information	Costs for travelling, board and lodging will have to be covered by the student.

Module: WP 8 Molecular methods in Geobiology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Exercise course	WP 8.1 Molecular methods in Geobiology: Tutorial	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	With regard to the compulsary elective modules WP 5 – WP 11, modules must be taken with a total value of 12 ECTS credits.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Molecular methods in Geobiology: laboratory methods for the analysis and manipulation of nucleic acids and proteins relevant for geobiological questions.
Learning outcomes	Students will learn routine molecular biology methods and critically analyse the results. After this module students should be able to design and perform experiments to test their own hypotheses in their research project (P 9).
Type of examination	Written exam.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.

Responsible contact	PD Dr. Dirk Erpenbeck
Language(s)	English

Additional information

Module: WP 9 Geomicrobiology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Exercise course	WP 9.1 Geomicrobiology: Tutorial	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	With regard to the compulsary elective modules WP 5 – WP 11, modules must be taken with a total value of 12 ECTS credits.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	Geomicrobiology: Laboratory methods for the analysis of geobiologically relevant communities of microorganisms.
Learning outcomes	Students will learn molecular biology methods commonly used for the study of microbial communities. Upon completion of this module students should be able to analyse experimental data from microbial communities of geobiological importance and communicate their results.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.

Responsible contact	Dr. Sergio Vargas
Language(s)	English

Additional information

Module: WP 10 Advanced topics in Geosciences

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 10.1 Advanced topics in Geosciences: Lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	With regard to the compulsary elective modules WP 5 – WP 11, modules must be taken with a total value of 12 ECTS credits.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	This module covers advanced topics in geosciences to extend the knowledge in specific topics on current developments in the field.
Learning outcomes	Upon successful completion of this module students learned about advanced concepts, terminologies, and current hypotheses in geosciences and can apply them to understand specific publications in the field.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.

Responsible contact	N.N.
Language(s)	English

Additional information

Module: WP 11 Special topics in Geosciences

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 11.1 Special topics in Geosciences: Lecture	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	With regard to the compulsary elective modules WP 5 – WP 11, modules must be taken with a total value of 12 ECTS credits.
Entry requirements	None
Semester	Recommended semester: 2
Duration	The completion of the module takes 1 semester.
Content	This module covers special topics in geosciences to cover current developments in the field.
Learning outcomes	Upon successful completion of this module students will have complemented and expand their knowledge about topics and current research methodologies in geosciences. They will be able to understand, critically evaluate and discuss complex scientific publications in the field.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.

Responsible contact	N.N.
Language(s)	English

Additional information

Module: P 9 Research Project

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	P 9.1 Research Project Design	WiSe	30 h (2 SWS)	30 h	(2)
Internship	P 9.2 Individual Research Project	WiSe	90 h (6 SWS)	210 h	(10)

For successful completion of the module, 12 ECTS credits have to be acquired. Class attendance averages about 8 contact hours. Including time for self-study, 360 hours have to be invested.

Module type	Mandatory module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Students design and subsequently conduct a larger (semester-long) independent research project, write a manuscript and present a poster. Projects will usually be suggested by the lab advisor, but should be developed further by the student.
Learning outcomes	Students learn to independently design their research projects under aspects of time, budget, methodology and feasibility and to present the project in a manuscript and a poster. After having designed their research project, students will learn to independently conduct the research project under aspects of time budget and methodology. After having completed the module, students will be able to plan, conduct and analyse the results in the Master Thesis (P 11).

Type of examination	Script
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Gert Wörheide
Language(s)	English
Additional information	

Module: P 10 Geo- and Paleobiology Synthesis

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Seminar	P 10.1 Seminar on Advanced Topics in Geobiology	WiSe	30 h (2 SWS)	60 h	(3)
Seminar	P 10.2 Seminar on Advanced Topics in Paleobiology	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 6 ECTS credits have to be acquired. Class attendance averages about 4 contact hours. Including time for self-study, 180 hours have to be invested.

Module type	Mandatory module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Students read scientific publications on hotly debated advanced topics in Geo- and Paleobiology. They prepare presentations of different formats on important scientific debates in Geo- and Paleobiology. Students also lead and contribute to scholarly discussions on the advanced topics of the studies. The publications on hotly debated advanced topics in geo- and paleobiology are chosen by the lecturers.
Learning outcomes	Students will have read and disputed a series of scientific studies. They will further improve their experience with presentations in different formats, asking critical questions about papers, participating in and leading of scholarly discussions on case studies on Geo- and Paleobiology, which qualifies them to take part in scientific discussions and prepares them to defend their thesis in the Thesis

	Disputation (P 11.2).
Type of examination	Presentaton or oral exam. The difinite exam modalitites will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Gert Wörheide
Language(s)	English
Additional information	

Module: WP 12 Advanced Invertebrate Paleobiology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Exercise course	WP 12.1 Advanced Invertebrate Paleobiology: Bilateria	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	Four of the compulsary elective modules WP 12 – WP 18 must be taken.
Entry requirements	None
Semester	Recommended semester: 3
Duration	The completion of the module takes 1 semester.
Content	Systematics, Evolution, comparative morphology and Phylogeny of bilaterian invertebrate animals
Learning outcomes	Students will remember, apply and connect knowledge from previous courses (P 2) to gain advanced knowledge on the evolution of bilaterian animals. Upon successful completion of this module students will combine this knowledge to understand the morphological adaptations in different bilaterian bauplans.
Type of examination	Written exam or drawing portfolio. The definite exam modalitites will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been

	completed successfully.
Responsible contact	PD Dr. Dirk Erpenbeck
Language(s)	English
Additional information	Recommended textbook: On the Origin of Phyla, Valentine 2004, University of Chicago Press, 614 pp.

Module: WP 13 Advanced Invertebrate Geobiology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Exercise course	WP 13.1 Advanced Invertebrate Geobiology: Non-Bilateria	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	Four of the compulsary elective modules WP 12 – WP 18 must be taken.
Entry requirements	None
Semester	Scheduled semester: 3
Duration	The completion of the module takes 1 semester.
Content	Systematics, Evolution, Ecology and Phylogeny of non-bilaterian animals.
Learning outcomes	Students will remember, apply and connect knowledge from previous courses (P 2) to gain advanced knowledge on the evolution of non-bilaterian animals, their systematics and ecology. Upon successful completion of the module students will have learned to observe and document morphological details of different animal bauplans.
Type of examination	Written exam or drawing portfolio. The definite exam modalitites will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory

credits	and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	PD Dr. Dirk Erpenbeck
Language(s)	English

Additional information

Module: WP 14 Advanced Vertebrate Paleobiology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Exercise course	WP 14.1 Advanced Vertebrate Paleobiology: Tutorial	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	Four of the compulsary elective modules WP 12 – WP 18 must be taken.
Entry requirements	None
Semester	Scheduled semester: 3
Duration	The completion of the module takes 1 semester.
Content	In the module the link between form and function of selected vertebrate groups is investigated in detail. Eco-morphological and physiological adaptations and factors leading to character evolution are analysed and discussed.
Learning outcomes	The students will be able to understand or interpret morphological and physiological adaptations in selected vertebrate groups.
Type of examination	Written exam or drawing portfolio.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.

Responsible contact	Prof. Dr. Bettina Reichenbacher
Language(s)	English

Additional information

Module: WP 15 Advanced Vertebrate Geobiology

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Exercise course	WP 15.1 Advanced Vertebrate Geobiology: Tutorial	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	Four of the compulsary elective modules WP 12 – WP 18 must be taken.
Entry requirements	None
Semester	Scheduled semester: 3
Duration	The completion of the module takes 1 semester.
Content	In the module the link between form and function of selected vertebrate groups other than in WP 14.1 are investigated in detail. Eco-morphological and physiological adaptations, and the factors leading to character evolution are analysed and discussed.
Learning outcomes	The students will be able to understand or interpret morphological and physiological adaptations in selected vertebrate groups that have not been investigated in WP 14.
Type of examination	Written exam or drawing portfolio. The definite exam modalitites will be announced at the beginning of the semester.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory

credits	and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	PD Dr. Gertrud Rößner
Language(s)	English
Additional information	

Module: WP 16 Concepts of Biomineralization

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Lecture	WP 16.1 Concepts of Biomineralization: Lecture	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	Four of the compulsary elective modules WP 12 – WP 18 must be taken.
Entry requirements	None
Semester	Scheduled semester: 3
Duration	The completion of the module takes 1 semester.
Content	Chemistry, structure and molecular mechanisms of biomineralization, taxonomic distribution and evolution of biomineralization.
Learning outcomes	Students will remember and apply relevant biological and geological knowledge from previous lectures on the specific topic of biomineralization. After the module, students understand concepts in biomineralization, and can critically read and discuss scientific publications in the field.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.

Responsible contact	Prof. Dr. Gert Wörheide
Language(s)	English

Additional information

Module: WP 17 Concepts of Bioconstructions

Programme	Masterstudiengang: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Exercise course	WP 17.1 Concepts of Bioconstructions: Microfacies of Carbonates	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	Four of the compulsary elective modules WP 12 – WP 18 must be taken.
Entry requirements	None
Semester	Scheduled semester: 3
Duration	The completion of the module takes 1 semester.
Content	Formation, deposition, diagenesis, and microfossils of carbonates will be explained with demonstrative material.
Learning outcomes	Students will be able to describe and interpret relevant features of carbonate microfacies.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.
Responsible contact	N.N.

Language(s)	English

Additional information

Module: WP 18 Collections Management and Research

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Exercise course	WP 18.1 Collections Management and Research: Tutorial	WiSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 3 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 90 hours have to be invested.

Module type	Compulsory elective module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	Four of the compulsary elective modules WP 12 – WP 18 must be taken.
Entry requirements	None
Semester	Scheduled semester: 3
Duration	The completion of the module takes 1 semester.
Content	In this module students will learn the importance, maintenance, management and research options of scientific collections.
Learning outcomes	After the module students will be able to work with scientific collections, to understand the collection methodology and to establish collections under scientific principles.
Type of examination	Written exam.
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS credits	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential elective compulsary module parts) has/have been completed successfully.

Responsible contact	Prof. Dr. Alexander Nützel
Language(s)	English

Additional information

Module: P 11 Master-Project

Programme	Master's Programme: Geo- and Paleobiology (Master of Science, M.Sc.)

Related module parts

Course type	Course (mandatory)	Rotation	Contact hours	Self-study hours	ECTS
Master's thesis	P 11.1 Master-Thesis	SoSe	-	810 h	(27)
Thesis defense	P 11.2 Disputation	SoSe	30 h (2 SWS)	60 h	(3)

For successful completion of the module, 30 ECTS credits have to be acquired. Class attendance averages about 2 contact hours. Including time for self-study, 900 hours have to be invested.

Module type	Mandatory module with mandatory courses.
Usability of the module in other Programmes	/
Elective guidelines	None
Entry requirements	None
Semester	Recommended semester: 4
Duration	The completion of the module takes 1 semester.
Content	This final module of the Master program consists of the Master thesis and a one hour seminar. The Master thesis is an independent research project designed by the student. The student writes a report (Master thesis) and presents his/her work in a 30-minute public talk.
Learning outcomes	The students carry out a larger individual research project, write a report and give a talk about their work. Throughout the Master project, they use and extend the knowledge they have gathered in the Master program. They gather valuable research experience.
Type of examination	Master-Thesis and Disputation
Type of assessment	The successful completion of the module will be graded.
Requirements for the gain of ECTS	ECTS credits will be granted when the module examination (or the examination of pertinent mandatory and potential

credits	elective compulsary module parts) has/have been completed successfully.
Responsible contact	Prof. Dr. Gert Wörheide
Language(s)	English

Additional information