

B.Sc. Marine Geosciences (BMG) - starting WiSe 2021/22

Principles	Evolutionary Processes of Earth and Ocean	Materials and Structures of the Earth	Chemical Principles of Geosciences	Physical Principles of Geosciences	Mathematical Principles of Geosciences
Language	English/German	English/German	English/German	English/German	English/German

Modules Sem. 1	Introduction to Earth Dynamics	From Atoms to Minerals - Mineralogy and Crystallography		Chemical Principles of Geosciences I	Physical Principles of Geosciences I	Mathematical Principles of Geosciences I	
Title, Form, CP Lect. 1	Earth Dynamics L 2	From Atoms to Minerals L+E 6		General Chemistry for Geoscientists L 4	Physics f. Natural Science I L+E+P 4	Fundamentals of Mathematical for Geosciences I L+E 6	
Title, Form, CP Lect. 2	Identification of Rocks E 2			General Chemistry for Geoscientists Exercise E 2	Physics of the Solid Earth I L 2		
Title, Form, CP Lect. 3	Introduction to Geoscientific Fieldwork F 2						
	6 SWS	4 SWS		6 SWS	6 SWS	4 SWS	

Modules Sem. 2	Evolution of Earth and Life	Structural Geology and Tectonics		Chemical Principles of Geosciences II	Physical Principles of Geosciences II	Mathematical Principles of Geosciences II	
Title, Form, CP Lect. 1	Earth and Life History L 2	Structural Geology L+E 3		Introduction to Geochemistry L 4	Physics for Natural Science II L+E+P 4	Fundamentals of Mathematics for Geosciences II L+E 6	
Title, Form, CP Lect. 2	Basics of Biology L 3	Regional Geology L 1		General Chemistry Lab Practice E 2	Physics of the Solid Earth II L 2	(Huhn, Kasemann)	
Title, Form, CP Lect. 3	Introduction to Fossils E 1	Geological Maps E 2					
	5 SWS	6 SWS		6 SWS	6 SWS	4 SWS	

Modules Sem. 3	Physical, Chemical and Biological Oceanography	Geology and Stratigraphy of Marine Sediments		Rock-Forming Processes	Principles of Applied Geophysics	Multidisciplinary Sediment Core Project	
Title, Form, CP Lect. 1	Climate and Ocean L+E 6	Introduction to Marine Geology L+E+S 1		Principles of Petrology L+E 3	Fundamentals of Applied Geophysics L+E 3	Multidisciplinary Sediment Core Project PE 6	
Title, Form, CP Lect. 2		Ship-based Survey for Marine Sediments F 1		Polarized-light Microscopy L+E 3	Geophysical Field Exercise F 3		
Title, Form, CP Lect. 3		Stratigraphy in Marine Sediments L+E 4					
	5 SWS	5 SWS		5 SWS	4 SWS	4 SWS	

Specialization 1	Specialization in Sedimentology	Specialization in Paleontology	Specialization in Geochemistry	Specialization in Geoinformatics	Specialization in Paleoceanography
Language	English/German	English/German	English/German	English/German	English/German

Modules Sem. 4	Sedimentology of Coast and Shelf	Introduction to Paleontology and Paleocology		Geochemical Processes and Isotope Geochemistry	Research Data Management and Analysis	Paleoceanography and Environmental Change	
Title, Form, CP Lect. 1	Siliclastic Coastal and Shelf Depositional Systems L+E 3	Introduction to Paleontology L+E 3		Geochemical Cycles + Processes: the Present View L+E 3.5	Research Data Management L+S 3	Paleoceanography - Introduction L 3	
Title, Form, CP Lect. 2	Sedimentology of Carbonate Shelves and Coasts L+E 3	Introduction to Paleocology L+E+F 3		Isotope Geochemistry L+E 2.5	Research Data Analysis E 3	Paleoceanography - Case Studies E 3	
	4 SWS	5 SWS		5 SWS	4 SWS	4 SWS	

Modules Sem. 5	Deep Sea Sedimentology	Marine Micropaleontology	Principles and Methods of Organic Geochemistry		Data Visualization	Paleoceanography - Core Lab or Field Studies	
Title, Form, CP Lect. 1	Deep-Water Depositional Systems L 4.5	Marine Micropaleontology L+E 6	Basics of Organic Geochemistry L 2		Introduction to Basic Principles of Data Visualisation L+E 2	Paleoceanography - Core Lab or Field Studies BC 6	
Title, Form, CP Lect. 2	Deep-Water Sediments Exercise E 1.5		Lab Course in Organic Geochemistry L+E+S 4		Introduction to Basic Practises of Data Visualisation E 4		
	4 SWS	5 SWS	6 SWS		4 SWS	4 SWS	

Modules Sem. 6	Sedimentary Processes	Paleontological Methods	Geochemistry Project		Earth-System Modeling and Data Analysis	From Past to Future Ocean Conditions	
Title, Form, CP Lect. 1	Basic Concepts of Sediment Dynamics L+E 3	Laboratory Methods in Paleontology LP 3	Aquatic Geochemistry PE 6		Earth-System Modeling Primer BC 2	Future Oceans L+E 3	
Title, Form, CP Lect. 2	Coastal Processes F 3	Quantitative Methods in Paleontology L+E 3			Earth-System Data Analysis L+E 4	Consequences of Global Change S 3	
	4 SWS	5 SWS	4 SWS		4 SWS	4 SWS	

Specialization 2	Specialization in Exploration Geophysics	Specialization in Geodynamics	Practical Professional Competences in Geosciences	
Language	English/German	English/German	German/English	German/English

Modules Sem. 4	Marine Geophysics	Geodynamic and Plate Tectonic Principles		Geoscientific Field Competence	Digital Competences	
Title, Form, CP Lect. 1	Marine Geophysics L+E+S 6	Geodynamic and Plate Tectonic Principles L+E+S 6		12 Days in the Field (2 one-week Field-Exercises in Central Europe) F 6	3 three-day Computercourses in Programming (Excel, Matlab, Python, GIS) + 3 one-day Blockcourses in Drawing Programs (Corel, GMT, Grapher/Surfer) BC 6	
Title, Form, CP Lect. 2						
	4 SWS	4 SWS		6 SWS	6 SWS	

Modules Sem. 5	Material Properties and Structural Imaging	Seismology and Geomagnetism		Professional Competences	Interdisciplinary Skills	
Title, Form, CP Lect. 1	Material Properties and Downhole Measurements L+E+S 2	Seismology L+E 3		Four-Week Professional Internship P 6	e.g. Language, Economy or Law Courses or another Professional Internship, Tutorial GS 6	
Title, Form, CP Lect. 2	Structural Imaging LP 4	Geomagnetism L+E 3				
	5 SWS	4 SWS		6 SWS	6 SWS	

Modules Sem. 6	Magnetic Exploration	Geodynamic Modelling		Bachelor Thesis Module (12 CP)		
Title, Form, CP Lect. 1	Principles + Methods of Magnetic Exploration L+E 3	Intr. into Granular Simulation Techn. - Sim. of Forearc Deform. Proc. L+E 3		Bachelor Thesis BT 9		
Title, Form, CP Lect. 2	Ground Magnetic Survey Exercise F 3	FEM Techn. - Deform. of Lithosph. under Ext. with Ex. Rifts + Ridges L+E 3		Bachelor Defense BT 3		
	4 SWS	4 SWS				