

Master of Geosciences – Prüfungsversion ab WiSe 2025/26

4 Semester / 120 CP = 48 CP Mandatory + 24 CP Core + 24 CP Specialisation + 24 CP Elective Modules

Advised combinations of modules for a specialisation:

■ Mandatory (MM): 48 CP ■ Core (MC): 24 CP ■ Specialisation (MF): 24 CP ■ Elective (ME): 24 CP

	Modules (Shortcode / Creditpoints)	Geosciences / Geology		Geosciences / Geophysics		Geosciences / Mineralogy and Petrology		Geosciences without a major	
		WiSe	SuSe	WiSe	SuSe	WiSe	SuSe	WiSe	SuSe
	Topics in Earth System Science (GEW-MM01 / 6 CP)	X		X		X		X	
	Project Practical or Research Internship (GEW-MM02 / 12 CP)	X		X		X		X	
Choose 24 CP	Sedimentary Earth System Record (GEW-MC01 / 6 CP)	X						X	
	Tectonics and Geodynamics (GEW-MC02 / 6 CP)	X						X	
	Data Analysis and Statistics (GEW-MC03 / 6 CP)	X						X	
	Field Practical (GEW-MC04 / 6 CP)		X						X
	Theoretical Geophysics (GEW-MC05 / 6 CP)			X				X	
	Geophysical Inversion and Data Analysis (GEW-MC06 / 12 CP = 2*6 CP (two Semester))			X	X			X	X
	Geophysical Laboratory (GEW-MC07 / 6 CP)			X				X	
	Advanced Mineralogy-Petrology (GEW-MC10 / 6 CP)					X		X	
	Applications of Mineralogy and Petrology (GEW-MC11 / 6 CP)						X		X
	Methods in Mineralogy and Petrology (GEW-MC12 / 6 CP)					X		X	
	Advanced Methods in Mineralogy and Petrology (GEW-MC13 / 6 CP)						X		X
Choose 24 CP	Earth Surface Processes (GEW-MF010 / 6 CP)	X						X	
	Earth Systems through Time (GEW-MF011 / 6 CP)	Alternating*						Alternating*	
	Modern Carbonates (GEW-MF012 / 6 CP)								
	Rates and Dates of Geological Processes (GEW-MF013 / 6 CP)	X						X	
	Geo-Information Systems (GEW-MF014 / 6 CP)	X						X	
	Sedimentary Systems Modelling (GEW-MF015 / 6 CP)	X						X	
	Remote Sensing of the Environment (GEW-RCM01 / 6 CP)	X						X	
	Active Tectonics (GEW-MF017 / 6 CP)		X						X
	Basin Analysis and Natural Resources (GEW-MF018 / 6 CP)		X						X
	Earth Observation and Modelling (GEW-MF019 / 6 CP = only one semester)	X						X	
	Field Exercise (GEW-MF020 / 6 CP = only one semester)	X						X	
	Fundamentals of Digital Seismology (GEW-MF110 / 6 CP)			X				X	
	Array Seismology (GEW-MF111 / 6 CP)				X				X
	Seismic Hazard Analysis (GEW-MF112 / 6 CP)			X				X	
	Seismological Data Science with Application to Volcano Systems (GEW-MF113 / 6 CP)				X				X
	Seismic Methods (GEW-MF114 / 6 CP)			X				X	
	Electrical and Electromagnetic Methods (GEW-MF115 / 6 CP)			X				X	
	Potential Field Methods (GEW-MF116 / 6 CP)				X				X

	Field Course Applied Geophysics (GEW-MF117 / 6 CP)				X				X
	Specialized Petrology (GEW-MF210 / 6 CP)					X		X	
	Age Determination (GEW-MF211 / 6 CP)						X		X
	Physicochemical Mineralogy-Petrology (GEW-MF212 / 6 CP)						X		X
	Hands-On in Mineralogy and Petrology (GEW-MF213 / 6 CP = only one semester)					X		X	
	Current Topics in Mineralogy and Petrology (GEW-MF214 / 6 CP = only one semester)					?	?	?	?
	Special Topics in Mineralogy and Petrology (GEW-MF215 / 6 CP)						X		X
	Master Project and Thesis (30 LP)	X		X		X		X	

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 Specialisation (MF): 24 CP
 Elective (ME): 24 CP

* (starting with Modern Carbonates in WiSe25/26)

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Note: This overview is a non-binding guide.

For legally binding and up-to-date information, please contact the
Examination Office or the Study Coordination Office.

Elective Modules

In total 24 CP needed	Only an orientation, elective modules should be chosen freely according to interest	Geosciences / Geology		Geosciences / Geophysics		Geosciences / Mineralogy and Petrology		Geosciences without a major	
		WiSe	SuSe	WiSe	SuSe	WiSe	SuSe	WiSe	SuSe
Choose 1	Modelling and exploring the Earth System (GEW-ME01 / 6 CP)								
	Modelling Tectonic and Surface Processes		X						X
	Advanced Subsurface Modelling/Geoenergy		X						X
	Special Topics in Applied Geophysics				X				X
	Advanced Methods in Observational Seismology				X				X
	Terrestrial and Airbone Lidar and Photogrammetry Systems		X		X				X
	Sedimentary Processes (Field Exercise)		X						X
Choose 1	Geosciences Across Scales (GEW-ME02 / 6 CP)								
	Stress Field of the Earth			X				X	
	Organic Geochemistry					X		X	
	Fundamentals of Geothermics of the Earth's Crust	X		X				X	
	Radiogenic Isotope Geochemistry and Geochronology					X		X	
	Sedimentary Processes (Field Exercise)		X						X
Choose 1	Past and Present of the Earth System (GEW-ME03 / 6 CP)								
	Permafrost Landscapes	X						X	
	Geofluids & Clay Mineralogy					X		X	
	Modern Carbonates	X						X	
	Ore Forming Processes & Dating of Volcanic Processes						X		X
	Sedimentary Processes (Field Exercise)		X						X
Choose 1	Modern Trends in Geosciences (GEW-ME04 / 6 CP)								
	Introduction to Geomicrobiology (Lecture/Exercises/Practical)		X						X
	Paleoclimate Dynamics		X						X
	Ore Forming Processes & Dating of Volcanic Processes						X		X
	Thematic Field School		X				X		X
	Applied Causal Inference				X				X
	Machine Learning and Data Sciences for Scientists and Engineers				X				X
Choose 1	Geoscientific Data Science (GEW-ME05 / 6 CP)								
	Remote Sensing of Permafrost Regions	X						X	
	Quantification of flow and transport processes for utilisation of the geological subsurface			X				X	
	Nonlinear Data Analysis Concepts			X				X	
	Advanced Geochemistry					X		X	
	Basic Thermodynamics					X		X	
	Paleoclimate Dynamics		X						X
Choose 1	Special Remote Methods in Geosciences (GEW-ME06 / 6 CP)								
	Planetary Physics				X				X
	Analysis of Digital Elevation Models		X		X				X
	Deep Electromagnetics and Magnetotellurics				X				X
	Earth Surface Deformation and Radar Satellite Interferometry (InSAR)			X				X	
	Applied Causal Inference				X				X

	Terrestrial and Airborne Lidar and Photogrammetry Systems		X		X				X
Choose 1	Special Topics in Geosciences (GEW-ME07 / 6 CP)								
	Coastal Dynamics	X						X	
	Applied Mineralogy and Cultural Heritage					X		X	
	Biogeochemistry	X						X	
	Visualization and Communication	X		X		X		X	
	Environmental Mineralogy					X		X	
Choose 1	Monitoring Techniques and Data Analysis in Geosciences (GEW-ME08 / 6 CP)								
	Planetary Remote Sensing			X				X	
	Earthquake and Volcano Deformation			X				X	
	Micro-analytical Methods and X-ray Powder Diffraction					X		X	

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