GEW-ME01 Modeling and Exploring the Earth System	Number of credit points (LP): 6

Module type (mandatory or elective module)	Elective module
Contents and qualification objectives of the module	**Contents** This module focuses on the exploration and modeling of different parts of the Earth system and selected fundamental processes. Different exploration methods (e.g. geophysics or remote sensing) and modeling approaches (e.g. subsurface modeling of sedimentary basins) as well as their fields of application are introduced in more detail. Advanced methods of geoscientific data analysis and interpretation are introduced and used to develop a sound understanding of various dynamic systems and processes (e.g., geodynamics or sedimentary basin filling). **Qualification goals** Students - learn and deepen their methodological approaches of exploration and/or modeling for different geoscientific questions - deepen their knowledge of complex processes in the Earth system and learn to analyze exploration data and modeling results - are able to transfer observations from the field, information from databases and results from laboratory analyses into models
Module examination (number, form, scope)	An examination of the following forms: Portfolio examination, presentation (10-15 minutes) and accompanying report (10-12 pages). Written exam, 90 minutes Oral exam, 30 minutes
Self-learning time (in time hours)	120

Events (teaching forms)	Contact time (in semester hours)	Secondary examination (number, form, scope)		Partial module examination accompanying the course (number, form, scope)
		For the completion of the module	For admission to the module examination	
Lecture and exercise (lecture and exercise)	2V+2T	-	-	-

Frequency	Summer semester
Prerequisite for participation in the module	None
Teaching unit(s)	Geosciences