

GEW-MF04 Specialization Module-Theory and Applications		Number of credit points (LP): 12		
Module type (mandatory or elective module)	Elective module			
Contents and qualification objectives of the module	<p><b>Contents</b></p> <p>This specialization module allows students to acquire advanced and specialized knowledge in two subfields of their choice from the field of sedimentary systems and surficial geology. Advanced courses are proposed on topics such as numerical modeling of sedimentary systems, concepts and use of geographic information systems, the use of low-temperature thermochronology methods, or concepts and models of deposition of modern carbonate systems. A thematic field course on a specific sedimentary, tectonic, and/or geomorphological topic is also proposed within this module. This practical work will lead to a detailed understanding of the complex relationships within the Earth system (e.g., tectonically controlled landscape genesis and sedimentary archives, influence of tectonics, climate, and biosphere on surface and sedimentary processes, paleoclimate, extreme events, mass extinctions, paleoenvironmental conditions).</p> <p><b>Qualification goals</b></p> <p>Students</p> <ul style="list-style-type: none"> <li>- acquire a detailed and in-depth understanding of selected topics in sedimentary and surficial geology</li> <li>- learn how to apply modern measurement and analysis methods and how to interpret the data</li> <li>- learn how to approach static and forward modeling of sedimentary systems and how this can find applications in geothermal, CCS, and other fields, as well as in sustainable and responsible resource conservation and extraction and storage</li> <li>- learn the advanced application of the latest terrain methods and interpretation of complex geological conditions and acquire a deeper understanding of complex interrelationships in the Earth system</li> <li>- are able to generate the necessary data and forecasts based on a process-oriented understanding of the various components and interactions of the Earth system</li> </ul>			
Module examination (number, form, scope)	<p>An examination of the following forms:</p> <p>Portfolio examination, consisting of: Report (15-20 pages) and corresponding presentation (20-30 minutes).</p> <p>Oral exam, 30-45 minutes</p> <p>Written exam, 90-120 minutes</p>			
Self-learning time (in time hours)	246			
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	-	Exercises (80%)	-
Block course or field exercise (exercise)	7 days	Report (10-12 pages)	-	-
Frequency	Winter semester and summer Semester			
Prerequisite for participation in the module	None			
Teaching unit(s)	Geosciences			