GEW-MC03 Data Analysis and Statistics	Number of credit points (LP): 6
Module type (mandatory or elective module)	Core module
Contents and qualification objectives of the module	**Contents** The course teaches basic and advanced methods of data processing and statistics. It thus provides the foundation for many geoscience data analysis projects. Content taught includes introduction to a higher level programming language, basic statistics and spatial statistics, distributions, time series analysis, spatial and directional data analysis, image analysis, and remote sensing methods and their application. **Qualification goals** Students - learn a higher programming language such as Python or MATLAB and its data types and methods - learn and expand their knowledge in univariate, bivariate and multivariate statistics, time series analysis, signal processing, statistics of spatial and directional data, and image processing and analysis - understand numerical methods and implementations - develop the ability to independently plan and execute a data analysis project
Module examination (number, form, scope)	An examination of the following forms: Portfolio examination, report, 10-12 pages, and accompanying presentation, 10-15 minutes, on the results of a project. Oral exam, 30 minutes Written exam, 90 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	
Seminar and exercise (seminar and exercise)	2S+2T	-	Exercises (80%)	-

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