Module Name	Module Code
Digital Spatial Analysis - Practical Exercises	EMAEF013-01a
Module Coordinator	
Dr. agr. Georg Hörmann	
Organizer	
Institute for Natural Resource Conservation - Hydrology and Water Resources Management	
Faculty of Agricultural and Nutritional Sciences - Examination Office	
Faculty	
Faculty of Agricultural and Nutritional Sciences	
Examination Office	

ECTS Credits	6
Evaluation	Graded
Duration	one semester
Frequency	Only takes place during summer semesters
Workload per ECTS Credit	30 hours
Total Workload	180 hours
Contact Time	60 hours
Independent Study	120 hours
Teaching Language	English

Recommended Requirements			
Basic knowledge of computers and GIS			
Module Courses			
Course Type	**Course Name**	**Compulsory/Optional**	**SWS**
Lecture	Basics of Remote Sensing	Compulsory	1
Practical exercise	Basics of Remote Sensing - Practical Exercise	Compulsory	1
Practical exercise	Digital Spatial Analysis	Compulsory	2

Examination(s)				
Examination Name	**Type of Examination**	**Evaluation**	**Compulsory / Optional**	**Weighting**
Protocol: Digital Spatial Analysis - Practical Exercises	Protocol	Graded	Compulsory	100
Further Information on the Examination(s)				
1.+2. period in summersemester 1. period in wintersemester Examiner: Hörmann/Oppelt examiner: Dr. Hörmann/Prof. Dr. Oppelt QIS: 75101 with number of Examination 75110				

Course Content
Work with the data of research centers, monitoring projects, satellite and aerial pictures, depending on the selected project. Work with a wide variety of technology to collect spatial data, including own measurements and data procurement, e.g. aerial photos, GPS, mapping. Introduction to theory and practice of the analysis of satellite pictures, software and hardware of spatial analysis. Setup of raster based spatial models, simulation and analysis of the results and quality of the simulations.
Learning Outcome
Students are able to create a spatial data base for a given region which can be used for planning and modelling. They are able to choose methods and tools that are appropriate for the project and have an overview of the technical possibilities of databases and geographic information systems. They are able to assess the quality of the used data and are aware of appropriate measures to fill gaps in data. They are able to create spatial models, carry out simulations and analyze and understand the results.
Reading List

- Richards, J.A, Xiuping, J., 2006: Remote Sensing Digital Image
  Analysis. An Introduction, Springer Verlag.
- http://pcraster.geo.uu.nl/documentation/index.html
  (PC-Raster Development Group: The PC-Raster Manual)

Additional Information

Maximum number of participants: 20

Enrollment by OLAT within workdays Monday through Friday in the 1nd week of the 2. audit period of the preceding semester. Following information is necessary:
matriculation number
last name
first name
striven degree
study program
stu-Email

The allocation of the places takes place in the 2nd week of the 2. audit period of the preceding semester. Acceptance of the place by students only through participation at the first day of the course. Students without a place can get a place at the first day of the course by move-up procedure.
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Use	Compulsory / Optional	Semester
Master, 1-Subject, Environmental Management, Double-Degree-Agreement with Adam-Mickiewicz-University, Polen (UAM), (Version 2020)	Optional	-
Master, 1-Subject, Environmental Management, Double-Degree-Agreement with Irkutsk State University, Russland (ISU), (Version 2020)	Optional	-
Master, 1-Subject, Environmental Management, (Version 2020)	Optional	-
Master, 1-Subject, International Master in Applied Ecology, (Version 2020)	Optional	-
Master, 1-Subject, Sustainability, Society and the Environment, (Version 2020)	Optional	-