

Module Name	Module Code
Digital Spatial Analysis - Practical Exercises	AEF-EM013
Module Coordinator	
Dr. agr. Georg Hörmann	
Organizer	
Institute for Natural Resource Conservation - Hydrology and Water Resources Management	
Faculty	
Faculty of Agricultural and Nutritional Sciences	
Examination Office	
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
Exercise	Digital Spatial Analysis	Compulsory	2
Exercise	Basics of Remote Sensing - exercise	Compulsory	1
Lecture	Basics of Remote Sensing	Compulsory	1
Prerequisites for Admission to the Examination(s)			
Regular visits of practical course, excursion an practical exercises are necessary.			

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: 75100 with number of Examination 75110				

Course Content
<p>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.</p> <p>Introduction to theory and practice of the analysis of satellite pictures, software and hardware of spatial analysis.</p> <p>Setup of raster based spatial models, simulation and analysis of the results and quality of the simulations.</p>
Learning Outcome
<p>Students are able to create a spatial data base for a given region which can be used for planning and modelling.</p> <p>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.</p> <p>They are able to assess the quality of the used data and are aware of appropriate measures to fill gaps in data.</p> <p>They are able to create spatial models, carry out simulations and analyze and understand the results.</p>
Reading List
<ul style="list-style-type: none"> - 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 1st 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
Bachelor, 1-subject, Geography, (Version 2013)	Optional	1.
Bachelor, 1-subject, Geography, (Version 2007)	Optional	1.
Master, 1-subject, Agricultural Sciences, Agricultural Economics, (Version 2017)	Optional	1.
Master, 1-subject, Agricultural Sciences, Agricultural Economics, (Version 2013)	Optional	1.
Master, 1-subject, Agricultural Sciences, Agribusiness, (Version 2017)	Optional	1.
Master, 1-subject, Agricultural Sciences, Agribusiness, (Version 2013)	Optional	1.
Master, 1-subject, Agricultural Sciences, Crop Sciences, (Version 2017)	Optional	1.
Master, 1-subject, Agricultural Sciences, Crop Sciences, (Version 2013)	Optional	1.
Master, 1-subject, Agricultural Sciences, Animal Sciences, (Version 2017)	Optional	1.
Master, 1-subject, Agricultural Sciences, Animal Sciences, (Version 2013)	Optional	1.
Master, 1-subject, Agricultural Sciences, Environmental Sciences, (Version 2017)	Optional	1.
Master, 1-subject, Agricultural Sciences, Environmental Sciences, (Version 2013)	Optional	1.
Master, 1-subject, Applied Ecology, (Version 2016)	Optional	1.
Master, 1-subject, Applied Ecology, (Version 2015)	Optional	1.
Master, 1-subject, Applied Ecology, (Version 2010)	Optional	1.
Master, 1-subject, Dairy Science, (Version 2017)	Optional	1.
Master, 1-subject, Environmental Management, (Version 2013)	Optional	1.
Master, 1-subject, Environmental Management - Management of Natural Resources, (Version 2010)	Optional	1.
Master, 1-subject, Nutritional and Food Science, (Version 2013)	Optional	1.
Master, 1-subject, Nutritional and Consumer Economics, (Version 2017)	Optional	1.
Master, 1-subject, Nutritional and Consumer Economics, (Version 2013)	Optional	1.
Master, 1-subject, Urban and Regional Development, (Version 2013)	Optional	1.
Master, 1-subject, Sustainability, Society and the Environment, (Version 2013)	Optional	1.
Master, 1-subject, Environmental Geography and Management, (Version 2015)	Optional	1.
Master, 1-subject, Environmental Geography and Management, (Version 2013)	Optional	1.
Master, 1-subject with Minor Subject, Prehistoric and Historic Archeology, (Version 2007)	Optional	1.

