

Module Name	Module Code
Biodiversity Research in Grassland Science	agrarAEF868-01a
Module Coordinator	
Prof. Dr. Friedhelm Taube	
Organizer	
Institute of Crop Science and Plant Breeding - Organic Agriculture	
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	German

Module Courses			
Course Type	Course Name	Compul- sory/Optional	SWS
Lecture	Botanical Diversity of Plant Communities in Grassland	Compulsory	0,5
Lecture	Methods to Determine Functional Diversity in Grassland	Compulsory	0,5
Internship	Species Identification and Determination of Functional Diversity	Compulsory	2
Seminar	Literature Studies regarding Functional Diversity	Compulsory	1
Prerequisites for Admission to the Examination(s)			
Attendance of all practical exercises			

Examination(s)				
Examination Name	Type of Examination	Evaluation	Compulsory / Optional	Weighting
Oral Examination: Biodiversity Research in Grassland Science	Oral Examination	Graded	Compulsory	60
Seminar Paper: Biodiversity Research in Grassland Science	Seminar Paper	Graded	Compulsory	40
Further Information on the Examination(s)				
1.+2. period in summersemester 1. period in wintersemester examiner: Dr. Malisch QIS: 69900 with 69910+69920				

Course Content
Determination of the relationships between botanical diversity, yield performance, yield stability and forage quality. Fundamentals of the conception of field experiments for the analysis of biodiversity effects in grasslands and analysis methods of essential functional traits. Vegetation mapping in the field. Basics data analysis for the evaluation of biodiversity experiments.
Learning Outcome
The students learn the importance of functional botanical diversity in grasslands, the methods for assessing functional diversity for agronomic services as well as for other ecosystem services. In the practical part, they get to know the grassland societies of the economic grassland in S-H and are able to address grassland societies botanically as well as define the functional characteristics of the character species. They can design relevant experiments and conduct necessary field measurements.
Reading List
Buchmann, T., Schumacher, J., Ebeling, A., Eisenhauer, N., Fischer, M., Gleixner, G., Hacker, N., Lange, M., Oelmann, Y., Schulze, E.-D., et al. (2018). Connecting experimental biodiversity research to real-world grasslands. <i>Perspectives in Plant Ecology, Evolution and Systematics</i> 33, 78-88. Chen, S., Lin, S., Reinsch, T., Loges, R., Hasler, M., and Taube, F. (2016). Comparison of ingrowth core and sequential soil core methods for estimating belowground net primary production in grass-clover swards. <i>Grass Forage Sci</i> 71, 515-528. Hooper, D.U., Chapin, F.S., Ewel, J.J., Hector, A., Inchausti, P., Lavorel, S., Lawton, J.H., Lodge, D.M., Loreau, M., Naeem, S., et al. (2005). Effects of biodiversity on ecosystem functioning: A consensus of current knowledge. <i>Ecological Monographs</i> 75, 3-35. Nyfeler, D., Huguenin-Elie, O., Suter, M., Frossard, E., Connolly, J., and Luscher, A. (2009). Strong mixture effects among four species in fertilized agricultural grassland led to persistent and consistent transgressive overyielding. <i>J Appl Ecol</i> 46, 683-691.
Additional Information
This course has limited capacities: 20 students Enrolment by OLAT within workdays Monday through Friday in the 1nd week of the 2. audit period of the preceding semester. 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.

Use	Compulsory / Optional	Semester
Master, 1-subject, Agricultural Sciences, Agricultural Economics, (Version 2017)	Optional	-
Master, 1-subject, Agricultural Sciences, Agricultural Economics, (Version 2013)	Optional	-
Master, 1-subject, Agricultural Sciences, Agribusiness, (Version 2017)	Optional	-
Master, 1-subject, Agricultural Sciences, Agribusiness, (Version 2013)	Optional	-
Master, 1-subject, Agricultural Sciences, Crop Sciences, (Version 2017)	Optional	-
Master, 1-subject, Agricultural Sciences, Crop Sciences, (Version 2013)	Optional	-
Master, 1-subject, Agricultural Sciences, Animal Sciences, (Version 2017)	Optional	-
Master, 1-subject, Agricultural Sciences, Animal Sciences, (Version 2013)	Optional	-
Master, 1-subject, Agricultural Sciences, Environmental Sciences, (Version 2017)	Optional	-
Master, 1-subject, Agricultural Sciences, Environmental Sciences, (Version 2013)	Optional	-
Master, 1-subject, Dairy Science, (Version 2017)	Optional	-
Master, 1-subject, Nutritional and Food Science, (Version 2013)	Optional	-
Master, 1-subject, Nutritional and Consumer Economics, (Version 2017)	Optional	-
Master, 1-subject, Nutritional and Consumer Economics, (Version 2013)	Optional	-