

Module Name		Module Code	
Biometrical Planning and Inference		dsAEF010-01a	
Module Coordinator			
Dr. Mario Hasler			
Organizer			
Faculty of Agricultural and Nutritional Sciences - Applied Statistics			
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		
Module Courses			
Course Type	Course Name	Compulsory/Optional	SWS
Lecture	Biometrical Planning and Inference	Compulsory	3
Exercise	Biometrical Planning and Inference	Compulsory	1
Prerequisites for Admission to the Examination(s)			

Examination(s)				
Examination Name	Type of Examination	Evaluation	Compulsory / Optional	Weighting
Oral Examination: Biometrical Planning and Inference	Oral Examination	Graded	Compulsory	100
Further Information on the Examination(s)				
<p>1.+2. period in summer semester 1. period in winter semester</p> <p>examiner: Dr. Hasler QIS: xxxwith examination 301010</p>				
Course Content				
Sample size calculation, regression analysis, analysis of variance (and covariance), multiple contrast tests, experimental designs, introduction to mixed models, introduction to principle component analysis, introduction to statistical software R				
Learning Outcome				
The students have advanced knowledge of frequently used statistical models and multiple testing problems. They are aware of the basic principles of sample size calculation, they know how to plan and analyze typical experiments and surveys. They have basic knowledge of the most frequently used multivariate approaches. Moreover, they can understand, reproduce and critically evaluate most of the statistical analysis in the literature.				
Reading List				
Lecture notes and code for the statistical software R. Köhler, Schachtel, Voleske: Biostatistik - Eine Einführung für Biologen und Agrarwissenschaftler Sachs: Angewandte Statistik - Anwendung statistischer Methoden Hartung: Statistik - Lehr- und Handbuch der angewandten Statistik Hartung, Elpelt: Multivariate Statistik - Lehr- und Handbuch der angewandten Statistik Rasch, Herrendörfer, Bock, Victor, Guiard: Verfahrensbibliothek - Versuchsplanung und -auswertung Thomas: Feldversuchswesen Pearce: The Agricultural Field Experiment - A Statistical Examination of Theory and Practice Hoff: R-Handbuch für Biostatistik - Eine Einführung für Studierende der Gartenbauwissenschaften und Pflanzenbiotechnologie Crawley: Statistics - An Introduction using R Bretz, Hothorn, Westfall: Multiple Comparisons Using R				

Additional Information

Maximum number of participants: 26 - Up to 20 places will be allocated preferably to students in the Dairy Science master's program

Enrollment in OLAT during the 1st week of the 2. examination period of the preceding semester. The following information has to be provided for enrollment: 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. Notification will be sent to the stu-email address.

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	2
Master, 1-subject, Agricultural Sciences, Agricultural Economics, (Version 2013-01)	Optional	2
Master, 1-subject, Agricultural Sciences, Agribusiness, (Version 2017)	Optional	2
Master, 1-subject, Agricultural Sciences, Crop Sciences, (Version 2017)	Optional	2
Master, 1-subject, Agricultural Sciences, Animal Sciences, (Version 2017)	Optional	2
Master, 1-subject, Agricultural Sciences, Environmental Sciences, (Version 2017)	Optional	2
Master, 1-subject, Dairy Science, (Version 2017)	Compulsory	2
Master, 1-subject, Nutritional and Food Science, (Version 2013)	Optional	2
Master, 1-subject, Nutritional and Consumer Economics, (Version 2017)	Optional	2
Master, 1-subject, Nutritional and Consumer Economics, (Version 2013)	Optional	2
Master, 1-subject, AgriGenomics (Version 2020)	Compulsory	2