

<b>Module Name</b>	<b>Module Code</b>
Dairy Cattle Breeding	dsAEF005-01a
<b>Module Coordinator</b>	
Prof. Dr. Georg Thaller	
<b>Organizer</b>	
Institute of Animal Breeding and Husbandry - Animal Breeding and Genetics	
<b>Faculty</b>	
Faculty of Agricultural and Nutritional Sciences	
<b>Examination Office</b>	
Faculty of Agricultural and Nutritional Sciences - Examination Office	

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

<b>Recommended Requirements</b>			
Fundamentals of domestication, physiology and reproduction as well as economic relevant traits in livestock species. Knowledge of breeds, their performance profile and their distribution across countries. Basics of statistics, population and quantitative genetics. Knowledge of performance testing, testing schemes and breeding evaluation.			
<b>Module Courses</b>			
<b>Course Type</b>	<b>Course Name</b>	<b>Compulsory / Optional</b>	<b>SWS</b>
Lecture	Dairy Cattle Breeding	Compulsory	2
Seminar	Dairy Cattle Breeding	Compulsory	2
<b>Prerequisites for Admission to the Examination(s)</b>			
Prerequisites for admission to the oral examination is a passed and graded seminar presentation. The grade is included in the examination grade at a rate of 50% to improve the grade.			

<b>Examination(s)</b>				
<b>Examination Name</b>	<b>Type of Examination</b>	<b>Evaluation</b>	<b>Compulsory / Optional</b>	<b>Weighting</b>
Oral Examination: Dairy Cattle Breeding	Oral Examination	Graded	Compulsory	100
<b>Further Information on the Examination(s)</b>				
1.+2. period in winter semester 1. period in summer semester				
QIS: 300601 with examination 300630				

<b>Course Content</b>
General aspects of breeding programs, breeding goals and derivation of economic weights, determinants of genetic gain, gene flow method, inbreeding and concepts to balanced breeding, heterosis and cross breeding, examples of rotational crosses, genomic selection and application in breeding programs, application of genomics on farm level, exploiting advances in biotechnology to enhance breeding progress. Conservation of animal genetic resources.
<b>Learning Outcome</b>
The students understand preconditions, major steps and implementation of breeding programs. They are able to judge and discuss alternative breeding goals also considering environmental impact of production. They evaluate short term and long term consequences of breeding strategies for dairy cattle populations. Critical judgement of benefits and risks when applying new biotechnology.
<b>Reading List</b>
The Genetics of Cattle (Fries and Ruvinsky); Understanding Animal Breeding (Bourdon), Practical animal Breeding (Willis)
<b>Additional Information</b>
Maximum number of participants: 25 - Up to 20 places will be allocated preferably to students in the Dairy Science master's program Enrollment within workdays Monday through Friday in the 1st week of the 2. audit 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.