Module Name		Module Code
Precision Livestock Farming		agrarAEF810-01a
Module Coordinator		
Prof. Dr. Eberhard Hartung		
Organizer		
Faculty of Agricultural and Nutritional Sciences - Institute of Agricultural Engineering		
Faculty		
Faculty of Agricultural and Nutritional Sciences		
Examination Office		
Faculty of Agricultural and Nutritional Sciences - Examination Office		

ECTS Credits	6
Evaluation	Graded
Duration	1 Semester
Frequency	Only takes place during winter 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**	**Compul-sory/Optional**	**SWS**
Lecture	Precision Livestock Farming	Compulsory	1
Practical exercise	Precision Livestock Farming	Compulsory	1
Seminar	Precision Livestock Farming	Compulsory	2

Examination(s)				
Examination Name	**Type of Examination**	**Evaluation**	**Compulsory / Optional**	**Weighting**
Oral Examination: Precision Livestock Farming	Oral Examination	Graded	Compulsory	70
Seminar Paper with Assignment: Precision Livestock Farming	Seminar Course-work	Graded	Compulsory	30
Further Information on the Examination(s)				
1.+2. period in winter semester 1. period in summer semester examiner: Oral examination: Prof. Dr. Hartung/Dr. Haeussermann Paper and Presentation: Dr. Haeussermann QIS: 61903 mit PL 61910+91920				

Course Content
Tools and methods to monitor, analyse, control, and manage processes in animal production, such as RFID, image analysis, infrared spectroscopy, modelling and data exchange formats. Application areas, such as animal identification, sensor networks, monitoring and control of, e.g., animal health and behaviour, production processes, product quality, indoor climate and emissions of husbandry systems.
Learning Outcome
Students learn about functional principles and applications of sensor-based monitoring and control systems in animal production. They achieve skills to better understand application, use, value and validity of sensors and data, find solutions to monitor and control production process, animal health and product quality, and prepare and present results published in peer-reviewed articles.
Reading List
Copies of files presented, scientific journal papers, conference papers, and textbooks. Relevant articles will be distributed during lectures. Textbooks: Precision Livestock Farming, C. Cox, 2003, eISBN: 978-90-8686-515-4 | ISBN: 978-90-76998-22-0, https://doi.org/10.3920/978-90-8686-515-4 Precision livestock farming applications, Ilan Halachmi, 2015, eISBN: 978-90-8686-815-5 | ISBN: 978-90-8686-268-9, https://doi.org/10.3920/978-90-8686-815-5 Precision Livestock Farming Applications: Making Sense of Sensors to Support Farm Management, Ilan Halachmi, 2015, ISBN-10: 9086862683, ISBN-13: 978-9086862689 A Systematic Review of Precision Livestock Farming in the Poultry Sector: Is Technology Focussed on Improving Bird Welfare? Elizabeth Rowe 1, Marian Stamp Dawkins and Sabine G. Gebhardt-Henrich, 2019, Animals 2019, 9(9), 614; https://doi.org/10.3390/ani9090614

Additional Information

Maximum number of participants: 24 - Up to 10 places will be allocated preferably to students in the Dairy Science master's program
Enrollment by OLAT 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.
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, Specialisation Agricultural Economics, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Agricultural Economics, (Version 2013)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Agribusiness, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Agribusiness, (Version 2013)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Crop Sciences, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Crop Sciences, (Version 2013)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Animal Sciences, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Animal Sciences, (Version 2013)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Environmental Sciences, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation 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	-