

<b>Module Name</b>		<b>Module Code</b>	
Molecular Biology Approaches for Animal Nutrition and Physiology		agrarAEF861-01a	
<b>Module Coordinator</b>			
Prof. Dr. Siegfried Wolfram			
<b>Organizer</b>			
Institute of Animal Nutrition and Physiology - Nutritional Physiology and Biochemistry			
<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>			
Basic knowledge in molecular biology, cell biology including animal nutrition, biochemistry and physiology.			
<b>Module Courses</b>			
<b>Course Type</b>	<b>Course Name</b>	<b>Compulsory/Optional</b>	<b>SWS</b>
Lecture	Advanced Molecular Biology Approaches in research	Compulsory	2
Internship	Advanced Molecular Biology Techniques in research	Compulsory	2
<b>Prerequisites for Admission to the Examination(s)</b>			
Regular attendance of Internship course are necessary			

<b>Examination(s)</b>				
<b>Examination Name</b>	<b>Type of Examination</b>	<b>Evaluation</b>	<b>Compulsory / Optional</b>	<b>Weighting</b>
Written Examination: Molecular Biology Approaches for Animal Nutrition and Physiology	Written Examination	Graded	Compulsory	100
<b>Further Information on the Examination(s)</b>				
<p>1. +2. Period in winter semester  1. Period in summer semester  The admission requirement for the examination is a proof of the passed internship protocol written examination 100%  Examiner Dr. Burdeos/Prof Dr Wolffram  QIS: 68700 mit PNR68710</p>				
<b>Course Content</b>				
<p>This module provides the fundamental background to understand the significance of molecular and cell biology, biochemistry experimental techniques and approaches in animal nutrition and physiology. The following experimental techniques and its theories will be covered: Cell Biology (Mammalian cell culture preparation, cytotoxicity and proliferation assay) and Molecular biology (PCR system and technology, DNA and RNA analyses.). Biochemistry (Protein extraction, purification and quantification, electrophoresis technology, western blot technology and enzymatic activity.</p>				
<b>Learning Outcome</b>				
<p>On completion of the module, students will have gained an understanding of the fundamentals of animal molecular and cell biology, biochemistry, physiology and nutrition. Students will be able to describe the importance of molecular and cell biology including biochemistry experimental techniques in assessing the bioactivity and mechanism involve in a certain functional metabolites in animal nutrition. They will also be familiar with the structure of biomolecules and concepts of enzymology. Furthermore, students should be able to complete basic laboratory tasks relevant to animal nutrition and physiology.  Additional outcomes:  Students will learn how to assess and interpret scientific evidence.</p>				
<b>Reading List</b>				
<p>Reading List  Copies of utilized scientific journal and lecture handouts including textbooks will be given at the commencement of the lecture period.</p>				
<b>Additional Information</b>				

Maximum number of participants: 12  
 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.

Date: 02. 07. 2019

Kiel University

Page 2 / 3

Use	Compulsory / Optional	Semester
Master, 1-Subject, Agricultural Sciences, Specialisation Agricultural Economics, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Agricultural Economics, (Version 2021)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Agribusiness, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Agribusiness, (Version 2021)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Crop Sciences, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Crop Sciences, (Version 2021)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Animal Sciences, (Version 2021)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Animal Sciences, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Environmental Sciences, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Environmental Sciences, (Version 2021)	Optional	-
Master, 1-Subject, Dairy Science, (Version 2017)	Optional	-
Master, 1-Subject, Dairy Science, (Version 2021)	Optional	-
Master, 1-Subject, Environmental Management, (Version 2020)	Optional	-
Master, 1-Subject, Nutritional and Food Science, (Version 2021)	Optional	-

Master, 1-Subject, Nutritional and Food Science, (Version 2017)	Optional	-
Master, 1-Subject, Nutritional and Consumer Economics, (Version 2017)	Optional	-
Master, 1-Subject, Nutritional and Consumer Economics, (Version 2021)	Optional	-