

## A02M Epidemiology of International and Tropical Animal Infectious Diseases

<b>Module</b>	<b>Epidemiology of International and Tropical Animal Infectious Diseases</b>							
<b>Code</b>	<b>A02M</b>							
Coordinator	Prof. Dr. Dr. C.-P. Czerny							
Language	English							
Stud. workload	180h (56h contact time)							
Credits	6 ECTS							
Frequency (WS/SS)	WS							
Instructor	Prof. Dr. Dr. C.-P. Czerny							
Contents	<p>Infectious diseases play an enormous role in international animal health control. National health and veterinary authorities, as well as international organizations (WHO, FAO) are very much involved in the surveillance of epidemics and establishment of health and hygiene monitoring programs. These efforts will increase in future, because of a further globalization of international markets, and will require well-educated experts collaborating worldwide in this multidisciplinary field.</p> <p>This module will give a generalized view of current epidemics together with a specialized understanding of infectious diseases and hygienic programs in subtropical and tropical countries. Characteristics of the biology of relevant infectious agents like parasites, fungi and bacteria together with their toxins, viruses, and prions will be presented in detail. Some of these germs included in this unit cause severe zoonotic diseases with a lethal danger for humans. Immunological host-defence mechanisms of wild and domestic farm animals against pathogens will be discussed together with modern strategies of active and passive immunizations. Diagnostic methods presently available and new biotechnological approaches in future assay and vaccine development will be demonstrated. The adaptation of practical health and standardized quality management processes to various animal production systems (ruminants, pigs, poultry) and the corresponding management measurements will be explained. The view will deeply focus on environmental impacts (water, soil, air hygiene), epizootiology and modern tools in epizootiological research. It will include biology and eradication of vectors (insects, ticks) transmitting pathogens of animal and zoonotic diseases, as well as biological and chemical methods for vector control.</p> <p>In a laboratory course this module will also communicate well-established techniques of microbiological and parasitological diagnostics. Students will be practically trained in classical methods and in modern biochemical, immunological, biotechnological and molecular biological techniques for the detection of infectious agents, toxins and noxious substances. Tissue culture procedures for vaccine or antibody development are also used. Modification of livestock-environment interactions through human management are discussed</p>							
Objectives	Based on a scientific and practical up-to-date level, students know to evaluate and develop modern and effective livestock hygiene and husbandry concepts and to integrate them into complex quality management programs. Graduates are competent to implement and to communicate their knowledge in a multidisciplinary occupational area establishing epizootic control programs.							
Literature	Lecture based materials.							
Study system usability	Economy		Organic			Tropical		
	-		E			M		
Entrance requirements	Basic knowledge (B.Sc. level) of soil, plant and animal sciences							
Instruction type	Lecture	Seminar	Excursion	Practice	Tutorial	Project		
Duration [contact h]	56			28 (optional)				
Examination type	Oral test	Written test	Homework	Presentation	Protocol	Work report	Proj. report	Proj. pres.
	x							
Grade composition	100% oral test							