Course title:	Sustainable Veterinary medicine: environment, climate and food systems
Course title in Polish:	Zrównoważona weterynaria: środowisko, klimat i systemy żywnościowe
Course for discipline:	veterinary

Semester:	4	**Status of course:**	faculty	**Language:**	english
Academic year:	2026/27	**Catalog number:**	169/2025/26		

Coordinator of course:	dr Joanna Zarzyńska
Lecturer od course:	dr Joanna Zarzyńska and invited experts
Executing unit:	Dept of Food Hygiene &PHP Faculty of Veterinary Medicine SGGW
Ordering unit:	Doctoral School SGGW
Assumptions, goals and description of the course:	Course Assumptions The course is interdisciplinary in nature and introduces doctoral students to current challenges in veterinary medicine arising from climate change, environmental degradation, and the transformation of food systems. The classes are based on the concepts of One Health, sustainable development, climate neutrality (net-zero), and food system resilience. The course focuses on the role of the veterinarian as: a specialist in animal health and welfare, an expert in food production systems, a participant in environmental and climate protection actions, a partner in interdisciplinary One Health teams. The program covers topics related to: the impact of animal production on climate and the environment, circular economy in food and feed production, food safety under climate change conditions, biodiversity and the resilience of food systems, innovations and new food sources. The classes are problem-oriented and interactive, with an emphasis on case analysis, discussions, workshops, and project work. Course Description (15 hours) Module 1. Introduction to Sustainable Veterinary Medicine (2 hours) Main climate and environmental challenges. The role of veterinary medicine in food systems and environmental protection. Module 2. Zero-Emission Food Systems and Circular Economy (4 hours) Strategies for emission reduction and climate neutrality. Technological innovations. Balancing food systems. Circular economy. Problem-based lecture, project workshop, case study analysis. Module 3. Food Safety in Crisis Situations (4 hours) Food system resilience and risk management. Crisis scenarios in food systems. Climate change and zoonoses. Decision-making simulations, risk analysis, debate. Module 4. Biodiversity and Resilience of Production Systems (3 hours) Impact of livestock farming on biodiversity. Regenerative agriculture and low-impact production systems. Environmental footprint assessment of animal production (LCA basics). Lecture + analytical workshop. Module 5. New Food Sources and the Future of Veterinary Medicine (2 hours) Novel foods and alternative protein sources. The role of veterinarians in transforming food systems. Project presentations and concluding discussion.
Didactic form, number of hours:	15 hours
Teaching methods:	Interactive lectures using multimedia techniques, project-based workshops, decision-making games, data analysis and case studies, discussion panel
Limit of people in the group:	15

Learning outcomes

KNOWLEDGE - the graduate knows and understands:	**SKILLS - the graduate is able to:**	**COMPETENCES - the graduate is ready to:**
To the extent enabling to revise the existing pradigms in the field/discipline - the world achievments, gathering theoretical background as well as general and selected detailed issues	Carry out critical assessment of the scientific research findings and expert activities and their contribution to the knowledge development in the field/discipline	Critically evaluate the achievments in the field/discipline represented
Major general development trends in the field/discipline		Recognise knowledge in solving cognitive and practical problems characteristic for the area of research (field/discipline) and in an interdisciplinary aspect
		Support the ethos of scientific circles and conduct independent research

The method of verification of learning outcomes:	evaluation of the group project presentation, activity in classes, processing of data from the case study

Form of documentation of achieved learning outcomes:	entry into the eHMS system, documentation from design and analytical classes
Elements and weights of the final grade:	Weights: 40% group project, 40% individual data analysis documentation, 20% class participation. The documentation is graded by the instructor. A passing grade of 60% is required. Attendance at 80% of classes.
Place of the course:	lecture and lab rooms of the faculty
Basic and supplementary literature	
1. IPCC Report 2. FAO Reports 3. EU Strategies for Sustainable Food Systems 4. CLIMAT Adapt 5. One Health Joint Plan of Action (2022–2026) 6. Scientific publications related to the course topics indicated by the instructor	
Comments:	

Estimated number of hours of work of the doctoral student necessary to achieve the assumed learning outcomes:	30

Leraning outcomes reference to the second degree characteristics of the National Qualification Framework (level 8) covering doctoral competences:		
Symbol:	**Learning outcomes:**	**8 level NQF**
SD1_KW01	To the extent enabling to revise the existing pradigms in the field/discipline - the world achievments, gathering theoretical background as well as general and selected detailed issues	P8S_WG
SD1_KW02	Major general development trends in the field/discipline	P8S_WG
SD1_KU05	Carry out critical assessment of the scientific research findings and expert activities and their contribution to the knowledge development in the field/discipline	P8S_UW
SD1_KK01	Critically evaluate the achievments in the field/discipline represented	P8S_KK
SD1_KK03	Recognise knowledge in solving cognitive and practical problems characteristic for the area of research (field/discipline) and in an interdisciplinary aspect	P8S_KK
SD1_KK08	Support the ethos of scientific circles and conduct independent research	P8S_KR