Module code	M_WE_SEM11 ZZS
Field of study	Veterinary medicine
Module name, also the name in English	Herd health management
	Zarządzanie zdrowiem stada
Language of instruction	English
Module type	obligatory
Study cycle	Long-cycle Master's Degree studies
Mode of study	Full-time/part-time
Year of study in the field of study	V
Semester of study in the field of study	XI
ECTS credits, divided into contact/non-contact	3 (2/1)
Academic title/degree, name of the person in charge of the module	Prof. dr hab. Renata Urban-Chmiel
Unit teaching the module	Department of Veterinary Prevention and Avian Diseases Department of Animal Breeding and Agricultural Consulting Institute of Animal Nutrition and Bromatology Department of Food Hygiene of Animal Origin Department of Epizootiology and Clinic of Infectious Diseases Sub-Department of Internal Diseases of Farm Animals and Horses Department and Clinic of Animal Surgery Department and Clinic of Animal Reproduction
Module objective	Expanding theoretical knowledge and practical skills in herd health management of various livestock species in terms of improving the quality of nutrition, veterinary care, animal welfare and public health.
Learning outcomes for the module are a description of the knowledge stock, skills and social competences that the student will gain after completing the module.	Knowledge:
	K1- has knowledge of herd health management development and implementation methods in feeding, rearing and breeding as well as health for different livestock species (cattle, sheep, goats, pigs).
	K2- expands knowledge on developing prevention programmes for metabolic diseases, poisoning, infectious diseases, and osteoarticular diseases in livestock herds.
	Skills:
	S1- is able to identify hazards, estimate the level of risk and indicate critical points in various stages of the production cycle based on, among others, the use of computer systems for animal identification and registration - breeding programmes - control systems, quality.
	S2- Designs system and technological solutions to ensure proper food quality and safety in the production chain according to the "One Health" concept.
	S3- Acquires skills in wide-ranging animal health analysis and the ability to draw conclusions and develop strategic programs.

	Social competences:
	C1 - Recognises the need for maximal utilisation of professional skills to improve the quality of veterinary care, animal welfare and public health
	C2 - Communicates effectively with clients, other veterinarians, and employees of inspection authorities and offices, state and local government.
	C3 - Has the habit of continuous improvement of knowledge and skills
Entry and additional requirements	none

Module content	**Lectures**
	Principles of chemotherapeutic use in livestock.
	Rearing and health status monitoring of calves and small ruminant newborns.
	Determining the purpose of rearing calves, lambs, kids. Using collected data about herd health and welfare, developing a management programme depending on the rearing objective.
	Economic analysis of production cycle diseases in livestock.
	The use of metabolic tests and laboratory diagnostic panels in herd health evaluation.
	The importance of energy and mineral deficiencies in juvenile rearing and herd productivity.
	Technologisation of veterinary decision-making processes in herd health testing (livestock).
	Nutritional needs and feed resources of different species and ruminant physiological groups. Feeding systems for ruminants (traditional, TMR, PMR, others). Nutritional prevention of diseases, especially metabolic diseases. Genetic basis of livestock herd health.
	Nutritional prevention of diseases in dairy cow herds based on analysis of performance reports (RW - 1, RW - 2).
	Musculoskeletal system care and health. Impact of nutrition on the development of surgically treated gastrointestinal disorders in cattle.
	Official supervision of compliance with animal identification and registration rules
	Practical classes
	Methods of reducing and eliminating antibiotic therapy in livestock under current legal regulations.
	The principles of bio-assurance in livestock herds to combat ASF and BSE in the light of the current legislation
	Interpretation of laboratory test results used in herd health monitoring.
	Nutritional monitoring in dairy cattle and small ruminant herds. Livestock production technology and herd health.
	Practical evaluation of feedstuffs and mixtures and direct assessment of their nutritional value - comparison of methods using dedicated scales and tools. Practical ration balancing for different animal production groups (high-yielding dairy cows, beef cattle, beef herds, sheep and goats). Ration structure depending on production stage, computerized rationing in production groups. Ruminant herd feeding process.
	The use of virtual productivity assessment and herd health monitoring programs for reproductive indices, udder diseases, lameness, milk production (dairy farms).
	Herd fertility management. Milk production management.
	The analysis of performance reports concerning the optimisation of cattle and milk production management activities.

	Principles of animal identification and registration based on current legislation. Prevention and control of infectious diseases in cattle, pig, sheep and goat herds (BVD/MD, IBR/IPV, Q fever, Aujeszky's disease, CAE).
Planned forms/activities/teaching methods	As a part of the courses, students have the opportunity to participate in classes conducted in the form of lectures and laboratory classes. Moreover, they complete some of the topics in groups, using computer and simulation programs on herd health.
Verification methods and ways of documenting the achieved learning outcomes	Verification of achieved outcomes consists of: manual acquisition of skills in using a herd management program. Verification of knowledge and skills, including the development of a herd management program based on the oral or written examination for each part of the course. In order to receive a credit for the course, a student has to both attend at least 80% of the practical classes and pass the laboratory classes with the use of herd management software. Prerequisite for passing the course is obtaining a grade for each part of the module taught by the person in charge (nutrition, internal diseases and surgery, infectious diseases, slaughter and meat animal hygiene, veterinary prevention). The final grade will be the average of the partial grades given by the lecturers of each class. To receive a passing grade, a student is required to earn at least a satisfactory grade on each subtest. The subject is scheduled for 5 oral and/or written partial credits of equal value of 20% each. Grading scale: 0 - 50% - unsatisfactory 58 - 60% - satisfactory 61 - 69% - satisfactory plus 70 - 80% - good 81 - 90% - fairly good 91 - 100% - very good

ECTS credits	Types of classes: lecture, practical class, preparatory class, project preparation, literature class - participation in lectures - 15 hrs., - participation in recitation and laboratory classes - 20 hrs., - recitation introduction class- 6 hrs. - preparation for laboratory exercises - 10 x 2 hrs. = 20 hrs. - participation in consultations on the credit and exam preparation - 6 x 1 hour. = 3 hrs., - exam preparation and attendance - 19 hrs. + 2 hrs. = 21 hrs. The total student workload is 95 hrs. which corresponds to 5 ECTS credits. Lectures, laboratory classes, recitation, reading recommended literature, preparation for classes, preparation for the exam, the exam.

Form of course   **Number of hours**
ECTS credits

	Contact hours	
Lectures	15	0.5
Recitation class, laboratory	20	1
Consultations related to preparation for credit and exam	6	0.4
Final credit	2	0.1

	Number of hours **Non-contact hours**	
Preparation for laboratory classes	10	0.3
Preparation for recitation classes	4	0.1
Preparation for tests and exams	10	0.5
Reading literature	4	0.1
TOTAL:	**71**	**3.0**

The workload of activities that require direct participation of an academic teacher	participation in lectures - 15 hrs.; in practical classes - 20 hrs.; consultations - 6 hrs.; examination - 2 hrs.
Relation of module learning outcomes to major learning outcomes	Module learning outcome code - major learning outcome code K1 - B.W13 +++, B.W17++, B.W20++ K2- B.W13++, B.W17++, B.W20 +++ S1, - B.U1 ++, B.U9++, B.U20. +++ S2- B.U1++, B.U9++, B.U20++ S3 - B.U1++, B.U9. ++, B.U20+++ C1- K1 ++, K8 +++, K11 +++ C2-K1++, K8++, K11++ C3- K1++, K8- +++, K11++

Elements and values affecting final grade	5 oral and/or written partial credits of equal value of 20% each.