

SEM IX

Major(s)	Veterinary medicine
Name of the programme module	Diseases of farm animals. Block II
Programme module type (obligatory/optional) field	obligatory
Year of the study programme	V
Semester of the study programme	IX
ECTS credits together with contact/no contact hours division	10 (6.0/4.0)
A unit providing the course	Department and Clinic of Animal Reproduction, Department and Clinic of Animal Surgery, Department of Epizootiology and Clinic of Infectious Diseases, Faculty of Veterinary Medicine, University of Life Sciences in Lublin, Poland
Module objective	The aim of the module is to familiarise students with the specificity of the reproduction of farm animals, diagnosis and treatment of fertility disorders and diseases of farm animals with regard to surgery, orthopaedics, ophthalmology, dentistry and dermatology.
Educational results	<p>Knowledge: student is familiar with the regulation of the reproductive cycle of farm animals. Has the knowledge regarding the diagnosis and treatment of fertility disorders in farm animals Has the knowledge of the most common surgical, orthopaedic, ophthalmic and dental infectious diseases of farm animals in Poland</p> <p>Knows the principles of diagnosis and treatment in the fields of surgery, orthopaedics, ophthalmology and dentistry and infectious diseases of farm animals . Has the knowledge of infectious and non-infectious factors for cutaneous lesions. Knows methods for the diagnosis of cutaneous diseases. Understands the pathogenesis of infectious diseases and is familiar with principles for their diagnosis, therapy and prevention.</p>
	<p>Skills: Is able to carry out an interview, a clinical examination for fertility, and the procedure of artificial insemination. Is able to make a diagnosis for reproductive disorders in farm animals and implement an appropriate treatment course. Is able to perform basic obstetric and gynaecological procedures, provide a farm animal with non-surgical and surgical assistance during labour.</p> <p>Is able to carry out a clinical examination in the cases of diseases requiring surgical procedures and specify what additional tests should be performed. Is able to assist in surgical procedures and monitor the patient during surgery. Is able to implement effective methods for the treatment of skin condition. Is able to carry out epizootic investigation, and clinical and additional tests for the diagnosis of infectious diseases in individuals and in a group of animals.</p>
	<p>Social competencies: Is able to manage the reproduction of farm animals and is aware of the effects of particular decisions. Is aware of the professional responsibility for the maintenance and health of animals under veterinary care, is able to cooperate and work in a group, and has aspirations for lifelong learning.</p>
Content of the programme module	<p>Contents of lectures and classes in "Diseases of farm animals. Block II" relate to: neurohormonal regulation of the estrous cycle, pregnancy and lactation and related disorders (ovarian pathology and inflammatory conditions of the uterus); development and identification of pregnancy with regard to physiology and pathology of pregnancy, and disorders of the postpartum period; neonatal care and the evaluation of a health status in the neonatal and postnatal period; application of selected biotechnical methods in reproduction;</p> <p>clinical examination of the reproductive system of farm animals, diagnosis of conditions, management of difficult labour, treatment of postpartum perineal trauma; hormonal management of cyclical sexual activity; preparation of semen, carrying out artificial insemination, pregnancy diagnosis, management of twin pregnancy;</p> <p>procedures for dental and periodontal diseases, ophthalmic diseases, laryngeal and tracheal diseases, surgical treatment of the gastrointestinal tract, surgical treatment of hernias, castration (cryptorchidism), cystolithiasis, endoscopy of the upper airways, treatment of injuries of the integumentary system, diagnosis and treatment of various types of lameness. The contents also include: etiology, epidemiology, pathogenesis, clinical symptoms, pathological changes, diagnosis, differential diagnosis, treatment, prevention and control of infectious diseases of farm animals.</p>
Planned didactic forms/activities/methods	The module comprises the following didactic methods: lectures, recitation, laboratory and field classes and practical demonstrations.

Name of the programme module	Veterinary dietetics
Programme module type (obligatory/optional) field	Obligatory
Year of the study programme	V
Semester of the study programme	IX
ECTS credits together with contact/no contact hours division	1 (1.0/0)
A unit providing the course	Department and Clinic of Internal Diseases of Animals

Module objective	The aim of the module is to teach students the general knowledge of principles for the dietary management of sick animals and the selection of appropriate food to support their pharmacological treatment
Educational results	Knowledge: Student has the basic knowledge regarding the general nutrition of sick animals; shows the knowledge of the basic principles of enteral and parenteral assisted feeding; is able to adjust the diet in farm animal diseases; has an in-depth knowledge of the nutrition of elderly and neonatal animals
	Skills: Student possesses the skill of analysing and using particular nutrients in dietary food for animals; is able to analyse information contained on food labels and selects food that is appropriate in the treatment of a particular disease; is able to analyse and modify an animal's diet regardless of the animal's disease and during the recovery period; is able to compose feed that is appropriate to a particular animal disease without the help of others
	Social competencies: Student is aware that lifelong learning and self-improvement are essential to the profession; is able to work together in a group; correctly identifies and resolves dilemmas related to the profession; is aware of the significance of social, professional and ethical responsibility for high-quality food production, animal welfare, environmental development and environmental status
Content of the programme module	The lectures include: the general principles for the nutrition of sick animals; selection of suitable nutrients to create a diet that supports pharmacological treatment; nutrition principles in particular system diseases; the general principles for the selection of dietary food for the recovery period; compulsory and artificial nutrition of sick animals. The classes include: composing feed rations in the most common diseases (such as diseases of the digestive, respiratory, circulatory, urinary and nervous systems); selection of therapeutic diets for the most common diseases in dogs, cats, horses and farm animals; application of dietary food in an animal's recovery period.
Planned didactic forms/activities/methods	Lectures, discussion with students, practical classes, consultations, examination

Name of the programme module	Diseases of birds 1
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	V
Term for a given field	IX
ECTS credits together with contact/no contact hours division	4 (2.8/1.2)
A unit providing the course	Veterinary Prevention and Birds' Diseases Department
Module objective	To make students know the etiology, pathogenesis of communicable, invasion diseases, poisoning and deficiency diseases in birds, procedures for treatment of birds' diseases subject to official control in the EU countries. To make students know the specific and non-specific prophylaxis of poultry diseases.
Educational results	Knowledge: . Knows birds' diseases entities and their etiological factors, course, clinical symptoms and anatomopathological changes. Characterises laboratory methods, techniques and materials used in disease diagnostics. Understands instructions concerning design of birds' disease prevention programmes and application of medicinal products in treatment of birds' diseases.
	Skills: Can collect information on a case, perform clinical and anatomopathological examination of a bird. Can perform clinical examination of a bird. Can interpret results of additional (laboratory) tests and use regulations concerning control of poultry communicable diseases.
	Social skills: Awareness of the risk for human health resulting from a contact with a diseased animal (bird) and can share knowledge with the academic researchers. Awareness of social, professional and ethical responsibility for one's own diagnostic and treatment actions taken on a living organism. Can provide information on necessary procedures and implemented therapy in a clear and plain way.
Contents of the education module	Anatomy, physiology, conditions of keeping particular species of poultry, Physiology and pathology of brood. Diseases resulting from improper poultry handling. Genetic factors influencing health of birds. Virus, bacterial, parasite factors posing a risk in poultry pathology – discussion of individual diseases, including their etiology, course of disease, clinical symptoms and anatomopathological changes.
Planned didactic forms/activities/methods	Lectures, multimedia presentations, films, practical mastering of techniques of clinical and anatomopathological examination, laboratory diagnostics of parasite invasions and bacterial infections, discussion, laboratory class report

Name of the programme module	Andrology and Artificial Insemination
Programme module type (obligatory/optional) field	Obligatory
Year of studies for a given	V

Term for a given field	IX
ECTS credits together with contact/no contact hours division	2 (1.6/0.4)
A unit providing the course	Sub-Department of Andrology and Biotechnology, Department and Clinic of Animal Reproduction, Faculty of Veterinary Medicine, University of Life Sciences in Lublin, Poland
Module objective	The objective of the module is : familiarise students with physiological and pathological aspects of the functioning of the male reproductive system and with the interaction between the male reproductive system and other systems; allow students to acquire the skills of evaluating the aspects and treating them when necessary; familiarise students with modern biotechniques that are used in animal reproduction and with applicable Polish and EU rules and regulations.
Educational results	Knowledge: the student: has the knowledge of the structure, physiology and diseases of the male reproductive system with regard to species specificity and the prevention, therapy and control of the diseases; is familiar with the techniques of collecting semen, the methods of artificial insemination of female farm and companion animals, and with other modern biotechnology methods used in animal reproduction; is familiar with currently binding legal rules and regulations regarding the collection, evaluation and marketing of the biological material (spermatozoa, embryos) and with the sources of information on the subject; has the knowledge that is necessary to properly maintain documentation related to the artificial insemination of female farm animals.
	Skills: possesses the skill of carrying out the clinical examination of the male reproductive system and is able to put the principles of the therapy of the system into practice; Student is able to evaluate the usefulness of a male animal for reproduction under particular conditions (mating areas, semen collection centres, harem mating, etc.); is able to collect semen from a dog and a ram and to evaluate its quality and usefulness in the context of further application or packing.
	Competencies/attitude: student is able to act in accordance with the principles of veterinary deontology when selecting animals for reproduction, reducing the spread of genetic defects; is involved in lifelong learning and shows kindness and professional competence towards the owners of animals undergoing treatment or artificial insemination and towards the Veterinary Inspection.
Content of the programme module	Contents of the lectures: hormonal regulation of the male reproductive system, disturbances in the structure of a spermatozoon and the composition of semen plasma in the context of sperm motility disorders and the loss of fertilization capability with regard to differences between particular species, the arrangement of natural mating, artificial insemination of farm animals in Poland as well as related EU directives, congenital and acquired diseases of the male reproductive system in farm, production and companion animals and their treatment, legal regulations concerning the production, processing, storage and distribution of semen in Poland and EU, and in countries outside EU (an invited lecture). Contents of the practical classes: structure of the male reproductive system (separate organs) and clinical aspects of structure differences between particular species, collection and macroscopic and microscopic evaluation of semen, andrological examination of a male (a specific clinical examination of the male reproductive system, per rectal examination and an additional ultrasonography of gonads, collection of fluids from a bull's preputial pouch, determination of the optimal time for mating, artificial insemination of female production animals, farm animals and bitches, extenders and methods for packing and storing liquid and deep-frozen semen, embryo transfer (methods of superovulation), artificial insemination techniques.
Planned didactic forms/activities/methods	The module comprises the following didactic methods: lectures, practical classes, field classes, laboratory classes, demonstrations of methods of semen collection and artificial insemination

Name of the programme module	Veterinary Prevention I
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	5
Term for a given field	9
ECTS credits together with contact/no contact hours division	2 (1.1/0.9)
A unit providing the course	Institute of Biological Bases of Animal Diseases Division of Veterinary Prevention and Diseases of Birds
Module objective	The aim of education in this field is the acquisition of skills that allow the evaluation of health in the populations of animals that are diverse in terms of species and productivity, on the basis of epidemiological and production indicators. Evaluation of the significance of environmental factors for health, including the ability to identify and eliminate those factors which are harmful for animals. Planning and implementing measures to tackle threats, improve health and increase flock productivity. Unaided preparation of prophylactic schemes and elimination of physically, chemically and biologically induced threats in animal populations. Evaluation of the efficiency of the implemented prophylactic

	schemes.
Educational results	Knowledge: Broad knowledge of basic concept categories and terminology used in veterinary prevention, as well as concepts with a direct reference to practical implementation of knowledge on prevention. Knowledge of prophylactic schemes planning and research tools used in immunological research, as well as basic technologies that take advantage of the latest scientific achievements.
	Skills: Ability to seek, comprehend, analyse and creatively implement the necessary information from various sources and in different forms, specific to veterinary prevention. Ability to interpret legal regulations regarding the prophylaxis of communicable diseases, as well as an ability to determine the essential requirements of quarantine, adaptation of animals, and the knowledge of rodent control, disinsection and disinfection. Ability to evaluate the microclimate, as well as the knowledge of measurement technology and its components. Development and implementation of prophylactic schemes specific to individual species of productive animals.
	Social competence: Ability to cooperate and work in a group assuming various roles. Awareness of the need for targeted further education and self-improvement with regard to the occupation exercised.
Content of the programme module	Main reasons of economic losses in individual sectors of livestock production. Characteristics of the breeding environment; Impact of the environment on the occurrence of diseases; Basic information about the microclimate in buildings (temperature, humidity, cooling, air circulation, pollination, microflora, gas admixtures, lighting). Measuring techniques; Risk evaluation caused by air pollution. Prophylaxis of communicable diseases. Sanitary protection of frontiers: international and domestic sanitary regulations regarding communicable diseases, obligatory and recommended preventive vaccination – prevention at a global level, community level, union level, – domestic level, local structures and units of livestock production levels.
Planned didactic forms/actions/methods	Lecture, tutorials, laboratory classes, field classes,

Name of the programme module	Diseases of dogs and cats. Block I
Programme module type (obligatory/optional) field	Obligatory
Year of the study programme	V
Semester of the study programme	IX
ECTS credits together with contact/no contact hours division	6 (4.0/2.0)
A unit providing the course	Department and Clinic of Internal Diseases of Animals, Department and Clinic of Animal Surgery
Module objective	The aim of the module is to: familiarise students with particular internal, surgical, orthopaedic, dental and ophthalmic diseases of dogs and cats, including the etiology, pathogenesis and clinical course of the diseases; teach students the methods of diagnosis, and surgical and non-surgical medical management of particular disease entities, as well as differential diagnosis, treatment and prevention of the disease entities;
Educational results	Knowledge: Student is familiar with the causes, pathogenesis, clinical symptoms, diagnostic methods and principles for the therapy and prevention of diseases of dogs and cats; has the knowledge of current methods of therapeutic management, indications and contraindications for the use of particular drugs, particular methods for the prevention of the discussed diseases
	Skills: Student is able to describe the etiologic agents and pathogenesis of the discussed diseases of dogs and cats and uses the knowledge on the subject to carry out preventive, diagnostic and therapeutic procedures; is able to carry out an interview and an appropriate analysis of clinical symptoms; knows the principles for choosing and interpreting results of laboratory and additional tests, and is able to formulate a diagnosis and take appropriate course of surgical and non-surgical treatment of dogs and cats. Is able to accurately communicate with other veterinary doctors and animal owners
	Social competencies: Student is aware of the significance of social and professional responsibility for public health protection; is aware of his or her own limitations and is able to use the advice and help of specialised units or experienced veterinary doctors in the scope of the taken measures; understands that skill and knowledge building is a lifelong necessity
Content of the programme module	Etiology and pathogenesis of selected internal, surgical, orthopaedic, dental and ophthalmic diseases in dogs and cats. Methods for the management of patients and principles for the clinical examination of cats and dogs in the case(s) of: – internal respiratory, cardiovascular, blood and haematopoietic diseases; – eye diseases (conjunctival, third eyelid, eyelid, corneal and uveal diseases); – dental and periodontal diseases (dental extraction, occlusal adjustment, traumatic lesions

	of the viscerocranium); – surgical diseases (prostate and rectal diseases); – orthopaedic diseases (dysplasias). Laboratory and additional tests and interpretation of the test results. Methods of surgical and non-surgical treatment in the discussed disease entities.
Planned didactic forms/activities/methods	Lectures, recitation and laboratory classes, consultations, multimedia presentations, demonstrations and descriptions of clinical cases, supervision and correction of basic medical veterinary procedures, discussion.

Name of the programme module	Food Hygiene of Animal Origin I
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	V
Term for a given field	IX
ECTS credits together with contact/no contact hours division	4 (2.6/1.4)
A unit providing the course	Department of Hygiene of Food of Animal Origin
Module objective	Acquisition of knowledge and skills as regards health quality of food of animal origin with special regard of a) principles of organoleptic, chemical and microbiological analysis, b) detailed requirements for meat products, c) functioning of the HACCAP system in the technology of meat processing and storage of products of animal origin, d) supervision held by the Veterinary Inspection over production of food of animal origin
Educational results	Knowledge: Knowledge of the conditions and criteria for the health quality of food and the methods of laboratory testing, to the extent necessary to duly discharge the duties of sanitary and veterinary supervision. Understanding of the principles of functioning of the safety and quality assurance systems on every stage of production and distribution of food of animal origin. Knowledge of technologies of hygienic processing of meat and meat products.
	Skills: Ability to select appropriate methods and techniques of meat testing, ability to describe and draw reasonable conclusions from the obtained results. Ability to conduct a hazard analysis, evaluate and estimate the risk of hazard occurrence and define critical control points in meat processing companies. Ability to implement the procedures of the official control of food of animal origin.
	Social competence: Awareness of the responsibility for the consumer's safety as regards the supervision, as well as an ability to formulate opinions as regards their occupation. Understanding of the need for continuing education in connection with the progress of science and technological advancement.
Content of the programme module	The essence of the 'Food Hygiene of Animal Origin' programme module is to acquaint students with a) testing methods for food of animal origin, b) principles of the official supervision over the production of food of animal origin, c) risk to human health or life related to the production, storage and distribution of products of animal origin.
Planned didactic forms/actions/methods	Lectures, laboratory classes.

Name of the programme module	Law Veterinary Medicine
Programme module type (obligatory/optional) field	Obligatory
Year of the study programme	V
Semester of the study programme	IX
ECTS credits together with contact/no contact hours division	1 (1/0)
A unit providing the course	Department of Pathological Anatomy, Faculty of Veterinary Medicine, University of Life Sciences in Lublin, Poland
Module objective	To master basic legal terms and skills with regard to expert assessment and the production of veterinary forensic opinions (both written and oral) that are based on the assessment, particularly including opinions for judiciary authorities, administrative bodies and private persons.
Educational results	Knowledge: Student has basic (general) legal knowledge; is familiar with the principles for the production of expert assessments and veterinary forensic opinions; develops veterinary medical opinions in a written form that are based on examination plans for different animals; is familiar with the principles for the production of veterinary forensic opinions on the basis of the evidence contained in the case file
	Skills: Student is able to appear before judicial bodies in the character of a judicial expert; is able to carry out a veterinary forensic autopsy in any animal species; is able to carry out the veterinary forensic examination of a living animal; is able to produce a veterinary forensic opinion on the basis of the evidence comprising the case file; appropriately describes and uses suitable veterinary medical terminology (both Polish and English) and correctly links the achieved interview data and the changes observed during an examination in a logical sequence

	Social competencies: Student has developed a sense of respect for the law in force; possesses the skill of producing a veterinary forensic assessment and a veterinary medical opinion on the basis of the assessment; has a sense of responsibility that is adequate to the profession and is aware that the profession requires diligence
Content of the programme module	Forensic veterinary sciences: the role of forensic veterinary sciences in the discovery process of factual truth and as service in the protection of lawfulness; the role of a veterinary doctor as a person possessing expert knowledge (a judicial expert); the outline of legal terminology; the liability of a veterinary doctor for malpractice; establishing the cause of an animal's death (veterinary medical forensic assessment); production of veterinary medical opinions (both in a written and oral form) on the basis of examination plans for different animal species; animal autopsy for forensic purposes, particularly including the mechanisms of action of various injuries on the body of an animal and the discussion of dynamics of changes in parameters indicative of death.
Planned didactic forms/activities/methods	Lectures, discussion, production of veterinary medical opinions in a written form and the discussion of the opinions, animal autopsy on the basis of a judicial body's decision to admit an expert opinion, discussion of issues regarding the production of veterinary forensic opinions (particularly including opinions for judicial bodies).