

SEM VIII

Name of the programme module, also in English	Pathomorphology
Programme module type (obligatory/optional) field	Obligatory
Year of the study programme	IV
Semester of the study programme	VIII
ECTS credits together with contact/no contact hours division	3 (2/1)
A unit providing the course	Department of Pathological Anatomy
Module objective	To master the knowledge of the formation of pathological changes and the skills of the macroscopic and microscopic identification of morphological changes occurring in the body of an animal during the course of a disease. To teach students the skills of: performing an autopsy, collecting samples from a dead animal for laboratory tests, collecting samples from a living animal for the purposes of pathomorphological evaluation, carrying out the microscopic evaluation of histopathological preparations.
Educational results	Knowledge: a student who has completed the module: Knows the types of macro- and microscopic pathological changes occurring in particular organs and systems of an animal's body. Knows the causes and cause and effect relationships between pathomorphological changes and their factors. Knows indications for additional tests which would supplement an autopsy diagnosis.
	Skills: a student who has completed the module: Is able to carry out the autopsy of pets and to collect and preserve samples for additional (microbiological, histopathological, toxicological, etc.) tests. Identifies, describes and names anatomopathological changes in accordance with Polish and Latin terminology and interprets anatomopathological changes with regard to interview data, clinical and laboratory test results; formulates a pathomorphological diagnosis and takes the elements of differential diagnosis into account in the cases of infectious diseases. Is able to specify the pathomechanism and the cause of death and develops an autopsy report.
	Social competencies: a student who has completed the module: Shows responsibility for the taken decisions regarding statements on the causes of diseases and death in animals. Is aware of the dangers resulting from contact with the body of a dead animal and biological samples.
Content of the programme module	System pathology with regard to malformations, regressive changes, inflammations, circulatory disorders, progressive changes and neoplasms occurring in the following systems: pathology of the nervous system: brain and cerebellum, peripheral nervous system; pathology of the endocrine and the immune system: pituitary gland, thyroid, adrenal glands, thymus, lymph nodes; pathology of the locomotor system: muscles, bones and joints; pathology of the integumentary system.
Planned didactic forms/activities/methods	Lectures, demonstration, discussion, practical classes, exercises in the use of the microscope, performing an autopsy in different animal species, individual consultations

Name of the programme module	Hygiene of food-animals and meat 2
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	IV
Term for a given field	VIII
ECTS credits together with contact/no contact hours division	4 (2.88/1.12)
A unit providing the course	Department of Hygiene of Food of Animal Origin
Module objective	Acquainting students with the knowledge and skills of: a) additional sanitary and veterinary inspection of meat, b) sanitary and veterinary labelling of meat, c) handling meat that is unfit for consumption and meat that comes from areas that are subject to limitations
Educational results	Knowledge: The knowledge of the principles of supervision over the slaughter of food animals and the method of laboratory inspection, to the extent necessary to discharge the duties of sanitary and veterinary supervision. Understanding of the functioning principles of meat safety and quality assurance systems at every stage of the food chain. Knowledge of the organs and muscle tissue properties, as well as their post-mortem changes.

	<p>Skills: Ability to interpret and apply suitable regulations of the food law while discharging the duties of sanitary and veterinary supervision over the slaughter of food animals. Ability to conduct suitable laboratory tests of meat obtained from food animals and issue a sanitary and veterinary certificate for meat. Ability to properly describe and verify the procedures of the HACCP system at the stage of post-mortem processing and cooling meat obtained from food animals.</p> <p>Social competence: Ability to correctly identify and resolve the dilemmas connected with the performance of the supervision and the ability to formulate opinions regarding the activity performed. Awareness of the responsibility for consumer safety as regards the supervision, as well as the need for targeted further education and self-improvement.</p>
Content of the programme module	The essence of the 'Hygiene of food animals and meat' programme module is to acquaint students with: a) the principles of official supervision over the process of food animal slaughter and the competence of the official doctor performing the supervision pursuant to the applicable legal provisions, b) practical aspects of additional tests and physical and chemical tests which enable an issuance of a correct meat evaluation, c) cooling and storing technology for meat from food animals d) the HACCP system in meat storage, e) safety criteria, appropriate nutritional value and the organoleptic quality of meat.
Planned didactic forms/actions/methods	Lectures, laboratory classes, field classes in a slaughterhouse

Name of the programme module	Fishes diseases
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	IV
Term for a given field	VIII
ECTS credits together with contact/no contact hours division	3 (2/1)
A unit providing the course	Institute of Fish Diseases and Biology, Institute of Biological Bases of Animal Production
Module objective	Brief discussion of the basic farming principles for chief Polish species of farmed fish: carp and rainbow trout. Knowledge of fish immunology and the impact of farming related environmental and handling stress on defence mechanisms. Discussion of diseases typical of these species that are significant from the economic and sanitary point of view. Presentation of the principles of modern diagnostics, as well as therapies and prophylaxis of environmental, parasitic, bacterial, fungal and viral diseases. Instilling awareness of sanitary and veterinary procedures as regards routine
Educational results	<p>Knowledge: Acquaintance with basic principles of carp and trout farming in Poland and the threats to fish health arising from mass production. Knowledge of basic principles of sanitary and veterinary supervision over a fish farm. Knowledge of the most common disease-causing environmental factors of carp and trout farming. Knowledge of etiology and pathogenesis of bacteria, fungi and viruses that cause diseases in fish. Knowledge of the principles of conduct in the course of obtaining the status of being free from virus diseases. Knowledge of the most common parasitic invasions in fish. The knowledge of parasites that are harmful to human health. Knowledge of diagnostic methods, basic principles of therapies and prophylaxis of fish diseases. Knowledge of how long the effects of drugs in fish last in aquatic environment.</p> <p>Skills: Ability to carry out an examination and assess the health of fish in order to, inter alia issue a health certificate required for fish sale. Ability to monitor the status of fish health in a fish farm and take the required actions in the case of a disease that needs to be reported to the veterinary administration. Ability to diagnose a given disease entity with reference to differential diagnostics. Ability to use appropriate treatment and advise a fish farm to take appropriate prophylactic measures.</p> <p>Social competence: Ability to act autonomously and take responsibility for the decisions and their effects, with particular attention to those which affect fish and human health. Ability to develop team working skills; awareness of the need for targeted further education and self-improvement with regard to their occupation.</p>

Content of the programme module – a concise description (about 100 words).	Principles of sanitary and veterinary care provision for a fish farm. Sanitary and veterinary requirements connected to farming and handling fish. Etiology, pathogenesis, clinical symptoms anatomo-pathological lesions in the diseases of carp and trout. Diagnosis, treatment and prophylaxis of fish diseases. Immunoprophylaxis in fish farming. Diseases subject to compulsory treatment – legal provisions on the treatment of communicable diseases.
Planned didactic forms/actions/methods	Laboratory classes, lectures, self-study materials on the unit's website.

Name of the programme module	Diseases of fur animals
Programme module type (obligatory/optional) field	Obligatory
Year of studies for a given	IV
Term for a given field	VIII
ECTS credits together with contact/no contact hours division	2.0 (1.2/0.8)
A unit providing the course	Department of Epizootiology and Clinic of Infectious Diseases, Faculty of Veterinary Medicine, University of Life Sciences in Lublin, Poland
Module objective	Conveying knowledge that is required to perform the occupation of a veterinary doctor and that allows students to understand: the principles of breeding and feeding fur animals, the general biological characteristics of species of fur animals with elements of population genetics and molecular biology, basics of physiology, surgical procedures, obstetrics and diseases of the perinatal period, artificial insemination of fur animals, etiology, epidemiology, pathogenesis, diagnosis, prevention and therapy of infectious, non-infectious and parasitic diseases, and procedures that need to be implemented in the case of the identification of a compulsory notifiable disease, immunoprophylaxis and immunotherapy of infectious diseases, and veterinary medical procedures in fur animal farms
Educational results	Knowledge: Specifies, describes and interprets clinical symptoms, causes and anatomopathological changes in specific disease entities of infectious, non-infectious and parasitic etiology. Understands the pathogenesis of specific disease entities and is familiar with principles for their diagnosis and therapy. Knows the principles of general prevention and the prevention of specific disease entities causing the greatest economic losses in highly productive fur animal farms (including the breeding of both carnivorous and herbivorous fur animals). Knows the methods of modern fur animal farming with particular regard to the welfare of fur animals and production requirements
	Skills: student is able to carry out epizootic investigation, including an interview and clinical and additional tests in order to diagnose an infectious or a parasitic disease in individuals and under farming conditions, specifically including the farming of foxes, minks and rabbits, and to choose suitable treatment procedures; Is able to carry out antiepzootic procedures that are suitable for the management of infectious and diseases in single fur animals and in a fur animal farm; Takes appropriate course of action in the case of the identification of a compulsory notifiable disease; Knows the general principles of feeding fur animals, particularly including feed ration balance and its supplementation, and issues related to non-infectious diseases; Knows issues regarding the perinatal period, obstetrics and reproduction of horses
	Social competencies: Observes the principles of professional ethics; Developed the habit of lifelong knowledge and skill building; Shows the skills of effective interpersonal communication and taking action under uncertain and stressful conditions

Content of the programme module	<p>The programme of lectures and practical classes in diseases of fur animals comprises etiology, epidemiology, pathogenesis, clinical symptoms, anatomopathological changes, collection of samples for laboratory tests, diagnosis, differential diagnosis, prevention, treatment and control of the following disease entities:</p> <p>1. Carnivorous fur animals (foxes, minks, ferrets)</p> <p>Basics of genetics and breeding General and specific prevention in fox and mink breeding Veterinary medical procedures for fox and mink farms (management of compulsory notifiable diseases, protection of the farm animals, vaccination schedule, veterinary medical procedures for the identification of diseases and their spreading roots) Basic surgical procedures, and obstetrics and artificial insemination of foxes Non-infectious diseases and intoxications Invasive diseases Mycoses and mycotoxicoses Prevention of zoonoses transmitted by minks and foxes</p> <p>II. Herbivorous fur animals (rabbits, chinchillas, coypus)</p> <p>An outline of the anatomy of a rabbit and a chinchilla Physiology of rabbits and chinchillas with elements of pathophysiology The principles of breeding rabbits and chinchillas Infectious and invasive diseases of rabbits Infectious and invasive diseases of chinchillas Non-infectious diseases and intoxications</p>
Planned didactic forms/activities/methods	Didactic methods: lectures, recitation, laboratory and field classes, clinical training, consultations, reading the recommended literature, preparation for classes, assessment

Name of the programme module	Equine diseases. Block II
Programme module type (obligatory/optional field)	Obligatory
Year of studies for a given	IV
Term for a given field	VIII
ECTS credits together with contact/no contact hours division	10 (5.6/4.4)
A unit providing the course	Sub-Department of Andrology and Biotechnology, Department and Clinic of Animal Reproduction, Department and Clinic of Animal Surgery, Department and Clinic of Internal Diseases of Animals, Sub-Department of Internal Diseases of Farm Animals and Horses, 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 equine reproduction, diagnosis and treatment of reproductive disorders and equine diseases with regard to surgery, orthopaedics, ophthalmology, dentistry and dermatology
Educational results	<p>Knowledge:</p> <p>Is familiar with the regulation of the reproductive cycle of a mare and the specificity of a mare's labour; Has the knowledge regarding the diagnosis and treatment of reproductive disorders in horses; Has the knowledge of the most common surgical, orthopaedic, ophthalmic and dental diseases of horses in Poland; Knows the principles of diagnosis and treatment in the fields of surgery, orthopaedics, ophthalmology and dentistry. Has the knowledge of infectious and non-infectious factors for cutaneous lesions. Knows methods for the diagnosis of cutaneous diseases.</p>
	<p>Skills: student 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 horses and implement an appropriate treatment course Is able to perform basic obstetric and gynaecological procedures, provide a mare with non-surgical and surgical assistance during labour. 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 conditions.</p>
	<p>Social competencies: student is able to manage equine reproduction and is aware of the effects of particular decisions. Is aware of the professional responsibility for the maintenance and health of equine population in Poland with regard to recreation and sports, is able to cooperate and work in a group, and has aspirations for lifelong learning.</p>

Content of the programme module – a concise description (about 100 words).	<p>Contents of lectures and classes in "Equine diseases. 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 in a mare 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 equine reproduction; clinical examination of the reproductive system of a mare, diagnosis of conditions, management of difficult labour by the use of correction, fetotomy, a Caesarean section, operative treatment of postpartum perineal trauma; hormonal management of cyclical sexual activity; preparation of semen, carrying out artificial insemination, pregnancy diagnosis, management of twin pregnancy; procedures for dental and periodontal diseases, ophthalmic diseases, paranasal sinus diseases, laryngeal and tracheal diseases, surgical diseases of air sacs, surgical treatment of gastrointestinal obstruction, surgical treatment of hernias, castration of stallions (cryptorchidism), cystolithiasis and urethrolithiasis, rectal prolapse, treatment of congenital and acquired hernias, endoscopy of the upper airways, treatment of the diseases of the back and the withers, treatment of injuries of the integumentary system, diagnosis and treatment of various types of lameness, principles of orthopaedic shoeing.</p> <p>The contents also include the following topic areas of dermatology: infectious and non-infectious cutaneous diseases, principles of clinical and laboratory diagnostics, principles of general and local therapy.</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	Diseases of farm animals. Block I
Programme module type (obligatory/optional) field	obligatory
Year of studies for a given	IV
Term for a given field	VIII
ECTS credits together with contact/no contact hours division	7.0 (4.0/3.0)
A unit providing the course	Department and Clinic of Internal Diseases of Animals, Sub-Department of Internal Diseases of Farm Animals and Horses, Faculty of Veterinary Medicine, University of Life Sciences in Lublin, Poland
Module objective	Conveying knowledge that is required to perform the occupation of a veterinary doctor, familiarising students with the clinical picture of diseases, principles for therapeutic and preventive management, mechanisms of the formation and development of diseases, allowing students to acquire the abilities of diagnosis, differentiation, prevention and treatment of farm animals, familiarising students with the specificity of the reproduction of farm animals in the scope of gynecology and obstetrics, neonatal care, and diagnosis, treatment and prevention of mammary gland diseases
Educational results	<p>Knowledge: Specifies, describes and interprets clinical symptoms, causes and anatomopathological changes in specific, infectious and non-infectious disease entities. Understands the pathogenesis of infectious and non-infectious diseases and is familiar with principles for their diagnosis, therapy and prevention.</p>
	<p>Skills: student is able to perform an interview and a clinical examination and interpret results of laboratory and additional tests, carry out the examination of a neonate and milk; is able to carry out gynaecological and obstetric examination, and the examination of a neonate and the mammary gland of farm animals; is able to evaluate the health status of an animal and apply suitable preventive and therapeutic procedures in an individual patient and in a herd. Is able to take appropriate course of action to resolve problems related to reproduction, neonates and the mammary gland of farm animals. Shows the skill of monitoring the reproduction and health status of a large herd and taking appropriate action in the case of the identification of a compulsory notifiable disease.</p>
	<p>Social competencies: Student observes the principles of professional ethics; Developed the habit of lifelong knowledge and skill building; Shows the skills of effective interpersonal communication and taking action under uncertain and stressful conditions</p>
Content of the programme module	Programme of lectures and practical classes in diseases of farm animals. Block I comprises etiology, epidemiology, pathogenesis, clinical symptoms, pathological changes, diagnosis, differential diagnosis, treatment, prevention and control of non-infectious diseases, including: non-infectious cutaneous diseases and related conditions, respiratory, circulatory and excretory diseases, diseases of the nervous system, laminitis, deficiency diseases, metabolic diseases and myopathy, water-electrolyte balance and its disorders, selected issues regarding endocrinology, laboratory diagnostics of disorders of organs and systems; diagnosis of the estrous cycle phase and pregnancy; diagnosis, differentiation, prevention and treatment of

	ovarian, uterine and vaginal diseases; reproduction disorders; principles for and mistakes in herd management, disorders of animals due to the influence of incorrectly adopted technology, principles for the development and use of metabolic profiles
Planned didactic forms/activities/methods	Didactic methods: lectures, recitation, laboratory and field classes, demonstrations, clinical training, consultations

Name of the programme module	Clinical training 1 (after the VIII term)
Programme module type (obligatory/optional)	obligatory
Programme module level	Integrated graduate studies (MA, MS)
Year of studies for a given field	IV
Term for a given field	after the VIII term
ECTS credits together with contact/no contact hours division	4 (3/1)
A unit providing the course	Department of Veterinary Medicine, Life Sciences University of Lublin
Module objective	The aim of the practice is to acquaint students with the tasks, organisation, and functions of a veterinary clinic and broadening practical knowledge of clinical and laboratory diagnostics, veterinary surgery, as well as internal diseases of farm animals. Should a doctor who oversees the students' training deem it appropriate, also radiology.
Educational results	<p>Knowledge: The necessary knowledge for: conducting a clinical examination of animals according to the examination plan, an analysis of clinical symptoms, diagnosing and taking therapeutic or prophylactic measures. Knowledge of principles and practical aspects of medical-veterinary procedures in animal clinics</p> <p>Skills: Ability to complete medical history, to conduct a clinical examination, to analyse clinical symptoms and laboratory results, to diagnose, to take therapeutic and prophylactic measures. Ability to apply anaesthesia, the rules of asepsis and antisepsis and to assist at basic surgical procedures performed on animals. Ability to select and apply laboratory techniques, take samples for examination and analyse and interpret the results of the examination. Ability to prepare unambiguous case descriptions and keep records pursuant to the applicable law, in a form that is clear to both the owner and other doctors.</p> <p>Social competence: Ability to form independent opinions, especially as regards diagnostics and therapies of animal diseases. Ability to cooperate and work in groups; sense of responsibility for other team members and patients. Awareness of the need for targeted further education and self-improvement with regard to their occupation.</p>
Content of the programme module	<p>Medical records: Acquainting with medical forms used at the clinic (case history, admission register, electronic registry of admissions and treatment)</p> <p>Organisation and administration: Acquainting with the principles of work organisation in the place of training. Acquainting with the patient registration and the registry system (admission register, electronic registry of admissions and treatment). Acquainting with the methods of supplying and general rules of maintaining a medicine and material storage facility (reception, distribution, storage and registry of medicines and materials).</p> <p>Internal diseases: Conducting basic diagnostic activities. Ability to perform simple procedures (hypodermic intramuscular and intravenous injections, pleural cavity and peritoneum puncture, bladder catheterization, prostate infusions). Acquainting with the medicines that are most frequently administered in clinical practice. Results of additional examinations and their interpretation (morphological tests of blood and urine, biochemical tests of blood, gasometry, EKG), Acquainting with methods of treatment for most frequently occurring internal conditions</p> <p>Veterinarian surgery: general and regional anaesthesia, applying wound dressings, performance of simple surgical procedures, assisting at small surgical procedures (in general surgery, ophthalmology, orthopaedics and stomatology),</p> <p>Radiology: principles of preparing a patient for a radiological ultrasonographic examination, interpretation of x-ray and ultrasonographic images</p>
Planned didactic forms/actions/methods	Completing medical history and conducting a clinical examination, discussion, reports of medical cases in the Practice Journal

Name of the programme module	Practice in Veterinary Inspection
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Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	IV
Term for a given field	after the VIII term
ECTS credits together with contact/no contact hours division	2 (1.5/0.5)
A unit providing the course	Department of Veterinary Medicine, Life Sciences University of Lublin
Module objective	The aim of the training is for the students to acquire knowledge and skills in the field of: a) official supervision over the slaughter of food animals and the processing of carcass from these animals, b) performance of an official sanitary and veterinary inspection of food animals and their meat.
Educational results	<p>Knowledge: Students learn the principles of supervision over the slaughter of food animals, as well as ante-mortem and post-mortem examination techniques of food animals, together with laboratory testing methods pursuant to the applicable legal regulations, to the extent necessary to issue a correct sanitary and veterinary assessment. Students know slaughter technologies and post-mortem processing of food animals; they understand the functions of the systems that ensure safety and quality of meat.</p> <p>Skills: Ability to implement the procedures of official control over animal slaughter. Ability to perform an ante- and post-mortem inspection (together with a suitable additional inspection) of food animals and their meat and issue a proper sanitary and veterinary evaluation. Knowledge of record-keeping as regards inspection of food animals and meat.</p> <p>Social competence: Awareness of the responsibility for the consumer's safety as regards the supervision exercised. Ability to work in a team. Understanding the need for continuing education in connection with the progress of science and technological advancement.</p>
Content of the programme module	The essence of the 'Practice in Veterinary Inspection' programme module is to acquaint students with: a) technology of food animal slaughter and the competence of the official doctor performing the supervision pursuant to the applicable legal provisions, b) practical aspects of the ante- and post-mortem examination of food animals with a special reference to the macroscopic inspection and additional inspections, c) the HACCP system in the processing line of the slaughter together with a control over the system, d) principles of record keeping
Planned didactic forms/actions/methods	Ongoing and period inspections (with the supervision of the official veterinary doctor) in slaughterhouses, discussion, keeping records of all activities in the Practice Journal