

	M_WE SEM VI M57
Major(s)	Veterinary medicine
Name of the programme module, al	

SEM VI

Name of the programme module	Clinical and Laboratory Diagnostics II
Programme module type (obligatory/optional) field	Obligatory
Year of the study programme	III
Semester of the study programme	VI
ECTS credits together with contact/no contact hours division	5 (3.0/2.0)
A unit providing the course	Sub-Department of Clinical Diagnostics and Veterinary Dermatology
Module objective	The purpose of the module is to familiarise students with the methods for the clinical examination of particular animal species and the principles and methods of carrying out laboratory tests and interpreting their results.
Educational results	Knowledge The student is familiar with the diagnostic possibilities of the clinical examination of the digestive, locomotor, nervous, urinary and reproductive system in particular animal species. The student is familiar with the principles for the collection, storage and transport of biological samples. The student is familiar with the methods of testing biological samples and knows their diagnostic significance
	Skills. The student is able to carry out the clinical examination of the digestive, locomotor, nervous, urinary and reproductive system in particular animal species; is able to collect, evaluate and store samples for laboratory tests and to carry out basic laboratory test in accordance with principles regarding human and animal safety; is able to use the reference values of diagnostic parameters in particular animal species; is able to perform injection and punction
	Social competencies. The student is familiar with the principles of the ethical management of animals during their examination and when collecting samples for tests; is able to cooperate with other veterinary doctors and with experts from various fields when carrying out professional duties; is aware of the results of his or her actions within the scope of the future professional duties; is aware of his or her own limitations and understands that continuing education and self-improvement in the subject are essential
Content of the programme module	Animal handling during a clinical examination; examination of the digestive system; examination of the genitourinary system; catheterization of the urinary bladder; examination of the locomotor and nervous system; examination of the locomotor system (evaluation of animal behaviour and of the disorders of consciousness); evaluation of mobility; injection and punction into body cavities; laboratory test techniques used in the clinical practice; organisation of a veterinary laboratory; collection of samples for laboratory tests; urine and faecal analysis; biochemical tests for the evaluation of the hepatic and renal function; reference values for laboratory test results in particular animal species;
Planned didactic forms/activities/methods	The module includes the following didactic methods: lectures, practical classes with multimedia presentations, demonstrations of laboratory techniques and laboratory diagnostic methods, practical classes involving the presence of companion and farm animals at the Clinic of Internal Diseases

	DISEASES OF BENEFICIAL INSECTS
Programme module type (obligatory/optional) field	Obligatory
Year of the study programme	III
Semester of the study programme	VI
ECTS credits together with contact/no contact hours division	1.0 (1.0/0)
A unit providing the course	Department of Epizootiology and Clinic of Infectious Diseases
Module objective	The aim of the module is to familiarise students with: current information on threats to the animals (beneficial insects: honeybees, bumblebees, solitary bees, silkworms, food insects) and methods for the elimination of the threats; major infectious diseases of bees and other beneficial insects mentioned above, and their etiology, pathogenesis, clinical course; methods for the diagnosis and management of particular disease entities. The module also aims to teach students how to carry out a differential diagnosis, and how to prevent and treat infectious diseases, and to familiarise the students with compulsory notifiable diseases that have been identified in beneficial insects and with the administrative procedure to eliminate and reduce the spread of such diseases in Poland and other EU member states.
Educational results	<p>Knowledge: a student who has completed the module:</p> <p>Has the knowledge regarding the anatomy, physiology and use of insects.</p> <p>Knows the major diseases of worms and bees, as well as bumblebees, solitary bees, silkworms and food insects, including compulsory notifiable diseases that have been identified in the above species.</p> <p>Has the knowledge regarding etiology, spreading routes, diagnosis and differential diagnosis of major infectious disease entities in beneficial insects.</p> <p>Demonstrates the knowledge of clinical symptoms, causes, anatomopathological changes, methods for the diagnosis, prevention and treatment of non-infectious and infectious diseases of beneficial insects.</p> <p>Has the knowledge required to diagnose and treat particular infectious disease entities affecting beneficial insects.</p> <p>Skills: a student who has completed the module: Is able to carry out a veterinary medical interview and a clinical examination of bee colonies and nests of other insects suspected of a particular disease. Is able to collect samples suitable for laboratory tests. Knows methods for the management of sick bee colonies and other beneficial insects, as well as methods for the management of bee colonies and other beneficial insects suspected of an infectious disease. Knows procedures for the management of compulsory notifiable diseases. Is able to implement treatment that is effective against a given disease entity. Knows the principles of the prevention of infectious diseases and methods for the interruption of the epizootic chain. Is able to carry out an appropriate analysis of clinical symptoms and results of laboratory and additional tests, and to formulate a diagnosis and take appropriate course of treatment of beneficial insect diseases.</p> <p>Social competencies: a student who has completed the module: Is aware of his or her own responsibility for the decisions regarding an animal and its owner. Observes the principles of ethics. Is aware of his or her own limitations and is able to use the advice and help of specialised units or experienced veterinary doctors. Believes that building knowledge and skills in the scope of diagnosis, treatment and control of diseases of beneficial insects is a lifelong necessity.</p>
Contents of the education module	<p>Diseases of beneficial insects: pathogenesis of selected non-infectious disease entities and anomalies in the development of insects; how infectious diseases are spread and what their etiological factors are; methods for the prevention and control of infectious and invasive diseases of beneficial insects; methods for the management of compulsory identifiable diseases; methods for the appropriate collection of samples for laboratory tests; interpretation of laboratory tests</p> <p>Contents of the lectures: the lectures contain information on the history of Polish and international beekeeping, bee species, biology of a bee colony, silkworm and bumblebee breeding, general hive management and bee products The main contents of the lectures comprise diseases of worms and adult bees, intoxications and bee pests.</p> <p>Contents of the practical classes: morphology of bees, bumble bees, solitary bees, silkworms, food insects; beekeeping equipment, hive equipment, types of bee products</p>

	and diseases, particularly including methods for the diagnosis and control of the diseases. The classes allow students to familiarise themselves with current cases of pathological changes observed in apiaries. Students attending the classes learn about the basics of controlling compulsory notifiable diseases (elimination of outbreaks of infectious diseases of bees). The practical classes take place in an apiary.
Planned didactic forms/activities/methods	Lectures, laboratory classes, practical classes in an apiary, discussion.

Name of the programme module	Anaesthesiology and fundamentals of surgery
Programme module type (obligatory/optional) field	obligatory
Year of studies for a given	III
Term for a given field	VI
ECTS credits together with contact/no contact hours division	3 (1.6/1.4)
A unit providing the course	Department and Clinic of Animal Surgery, Faculty of Veterinary Medicine, University of Life Sciences in Lublin, Poland
Module objective	To learn about the methods for anaesthesia in animals, and about surgical instruments and anaesthetic apparatus, tissue sealing, bleeding control, applying a dressing, the principles of surgical asepsis and antisepsis, the methods for instrument sterilisation, the principles for the management of surgical emergency cases
Educational results	Knowledge: Student has the knowledge of drugs that are used for premedication and general anaesthesia, the methods for local and general anaesthesia and the management of surgical emergency cases; Is familiar with the diagnostics and therapy of wounds, closed injuries, haematomas, abscesses, lymphomas; Is familiar with surgical instruments and anaesthetic apparatus, and the methods for tissue cutting and sealing, bleeding control and dressing application
	Skills: Is able to apply appropriate sedation and carry out general and local anaesthesia, manage pain and provide first aid to patients with bleeding, wounds, multi-organ injury and anaesthesiological complications; Possesses the skill of applying and using surgical instruments and anaesthetic apparatus; Is able to apply surgical aseptic and antiseptic techniques and sterilise instruments
	Social competencies: Acts in accordance with the principles of veterinary deontology that pertain to aspects of the management of emergency cases and pain relief; Has the understanding of pain in animals, aims to improve animal welfare and to increase the awareness of the subject among animal owners, and cooperates with animal owners as part of the provided therapy
Content of the programme module	Contents of the lectures: phenothiazine derivatives, benzodiazepine derivatives, α_2 agonists, butyrophenone derivatives, muscle relaxants, painkillers, ketamine, barbiturates, fundamentals of general anaesthesia, inhalation anaesthesia, patients with multi-organ injury, management of emergency cases, closed injuries, abscesses, haematomas, lymphomas, wound healing
Planned didactic forms/activities/methods	Multimedia presentations Restraining animals in practice Practical demonstration of premedication, infusion and inhalation anaesthesia Monitoring of an anaesthetic patient in practice Demonstration of surgical instruments and anaesthetic apparatus and their application in practice Practical teaching of methods for applying surgical sutures Applying a dressing Discussion of the action of particular drugs by students

Name of the programme module	Animal feed hygiene
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	III
Term for a given field	VI
ECTS credits together with contact/no contact hours division	2 (1.36/0.64)

A unit providing the course	Institute of Biological Bases of Animal Diseases Division of Veterinary Prevention and Avian Diseases
Module objective	Acquainting students with basic legal acts, applicable domestically and in the European Union, as regards health and trade quality of materials and feed additives used in animal feeding, as well as duties and competence of the Veterinary Inspection as regards feed hygiene and official control.
Educational results	Knowledge: Understanding the correlations between health quality of animal feed and the safety of food of animal origin. Knowledge of the role and duties of veterinary service in supervision over feed production
	Skills: Ability to exercise veterinary and sanitary supervision over the production, distribution and application of animal feed. Ability to identify and evaluate the factors that influence the quality of animal feed on the basis of applicable regulations. Ability to undertake standard procedures using suitable provisions that solve problems in terms of medicated feed, genetically modified feed and feed materials that contain animal protein
	Social competence: Awareness of the social, professional and ethical responsibility for the health quality of animal feed of the necessity of permanent self-education and self-improvement as regards the duties of Veterinary Inspection in terms of official control of animal feed
Content of the programme module	A description of basic legal acts in Poland and the EU concerning animal feed. The duties of Veterinary Inspection as regards official control of feed; establishments that produce feed additives, premixtures and compound feed, as well as control of the products that are placed on the market. Regulations that pertain to feed sampling for tests as well as handling samples as regards official control. Feed evaluation on the basis of applicable provisions: microbiological testing, testing for growth promoters, coccidiostats and other feed additives. Regulations pertaining to production, distribution and animal application of medicated feed and feed that contains genetically modified organisms. Description of the substances which have an adverse effect on animal health, the quality of foodstuffs of animal origin and the environment. Provisions pertaining to the possibility of applying animal tissue in animal feeding. The role and tasks of Border Veterinary Inspectors in the official feed control and the structure and function of the Domestic Early Warning System. Sanitary and hygienic evaluation of water.
Planned didactic forms/actions/methods	Lectures, laboratory classes, tutorials, multimedia presentations, discussions.

Name of the programme module	Veterinary parasitology and invasiology 1
Programme module type (obligatory/optional)	Obligatory
Year of studies for a given field	III
Term for a given field	VI
ECTS credits together with contact/no contact hours division	4 (1.7 / 2.3)
A unit providing the course	Department of Parasitology and Invasive Diseases, Institute of Biological Bases of Animal Disease
Module objective	Discussion of human and animal parasites (protozoans, flat worms – trematodes and tapeworms) both in Poland and in the world, as well as parasitic diseases, which are significant from the economic, sanitary and invasiological point of view. Awareness of the significance of parasitic zoonoses (protozoan and flat helminths). Acquisition of knowledge and skills in the field of general parasitology. Presentation of the principles of modern diagnostics, as well as therapies and prophylaxis of invasive diseases caused by protozoans and flat worms.
Educational results	Knowledge: Knowledge of concepts from the field of parasitology and general invasiology, e.g. the parasitic spreading route. Knowledge of the most common parasitic invasions in people and animals (protozoans, trematodes, tapeworms). Knowledge of parasitological diagnostic methods, antihelminthics and basic principles of therapies and prophylaxis of parasitic diseases (protozoans, trematodes, tapeworms)

	<p>Skills: Ability to conduct a parasitological examination and recognise a given invasion. Ability to apply appropriate treatment of basic disease entities and suggest a suitable prophylaxis (protozoans, trematodes, tapeworms)</p> <p>Social competence: Awareness of animal parasitic disease hazard (protozoans, trematodes, tapeworms)</p>
Content of the programme module	<p>Basic issues of parasitology and invasiology. Methods of recognising parasitic invasions. General description of protozoans, trematodes and tapeworms. Detailed parasitology demonstrated in a systematic arrangement. Parasitic infestations in the host system, protoparasitosis in particular, in carnivores, horses, ruminants, pigs, birds and humans. Antiprotozoal drugs. Fascioliasis and other trematodoses in ruminants. Trematodes and tapeworms in birds. Human trematodoses, medicines administered for diseases induced by trematodes. Taeniasis in carnivores. Moniesiosis and anoplocefalosis. Taeniasis in humans. Infestations of larval tapeworms; medicines administered to combat tapeworm infestations. Parasitic zoonoses from the scope of protozoans, trematodes and tapeworms.</p>
Planned didactic forms/actions/methods	<p>Lectures, tutorials, multimedia presentations, live demonstrations, practical classes (including microscopy, macroscopic preparations (fixed), laboratory tests, parasitic preparation, post-mortem examinations.</p>

Name of the programme module, also in English	Pathomorphology
Programme module type (obligatory/optional) field	Obligatory
Year of the study programme	III
Semester of the study programme	VI
ECTS credits together with contact/no contact hours division	5 (2.5/2.5)
A unit providing the course	Department of Pathological Anatomy
Module objective	<p>The module comprises a three-semester course in pathomorphology for the students of veterinary medicine and it aims to teach the students 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. The course covers issues in general pathology and the specific pathological anatomy of animals.</p> <p>The aim of the first part of the course (Block I), which takes place in the first semester, is to familiarise students with theoretical information regarding the primary branches of general pathology, such as regressive changes, circulatory disorders, inflammations, progressive changes and neoplasms. The first part also aims to teach the students how to use the technique of light microscopy with regard to the interpretation, description and identification of pathological changes.</p>
Educational results	<p>Knowledge: a student who has completed the module: knows the types of pathological changes occurring in particular organs and systems of an animal's body and is familiar with their microscopic image. Knows the causes and cause and effect relationships between pathomorphological changes and their factors. Knows the indications for histopathological and cytological examination.</p> <p>Skills: a student who has completed the module: Is able to collect samples and perform sample fixation for histopathological and cytological examination. Recognises, names and describes microscopic changes in accordance with Polish and Latin terminology and interprets the changes in the aspect of etiology and pathogenesis and formulates a histopathological and cytopathological diagnosis. Is able to use a light microscope in order to carry out the microscopic analysis of pathological changes.</p> <p>Social competencies: a student who has completed the module: Shows responsibility for the taken decisions regarding diagnosis and statements on the causes of disease formation and development. Is aware of the dangers resulting from contact with biological samples.</p>
Content of the programme module	General pathological anatomy: regressive changes: atrophy, degeneration, pigmentary disorders, disorders of mineral metabolism, necrosis; circulatory disorders, non-specific inflammation, granulomatous inflammation; progressive changes: hypertrophy, hyperplasia, neoplasms; parasites; inclusion bodies; fungal diseases.
Planned didactic forms/activities/methods	Lectures, demonstration, discussion, practical classes, exercises in the use of the microscope, individual consultations.