

### Description of the learning outcomes

**Name of the field of study:** veterinary medicine

**Level of study:** long-cycle Master's degree studies

**Profile of studies:** general-academic

**An academic discipline or disciplines to which the outcomes of learning apply:**

**leading scientific discipline (%):** veterinary medicine 100%

The description of the outcomes of learning takes into account the universal characteristics of first-cycle studies, level 7, specified in the Act of 22 December 2015 on the Integrated Qualifications System (Journal Of Laws of 2016 item 64 and 1010, as amended.) and the characteristics of the outcomes of learning of second-cycle studies, level 7, specified in the regulations issued based on Art. 7 sec. 3 of the aforementioned Act.

**Characteristics of the outcomes of learning for the qualifications at Polish Qualifications Framework, level 7**

Symbols of learning outcomes for the field of study	Directional learning outcomes	The reference to the second level characteristics of the PQF learning outcomes
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### CLASSES IN THE AREA OF BASIC SCIENCES

#### KNOWLEDGE

**the graduate knows and understands:**

A.W1	the structure of the animal organism: cells, tissues, organs and systems	P7S_WG
A.W2	the structure, function, and regulatory mechanisms of the organs and systems of the animal body (respiratory, digestive, circulatory, excretory, nervous, reproductive, endocrine, immune, and cutaneous) and their integration at the organism level;	P7S_WG
A.W3	the development of organs and the whole animal organism in relation to the mature organism	P7S_WG
A.W4	metabolic processes at the molecular, cellular, organ and systemic levels	P7S_WG

A.W5.	principles of water and electrolyte balance, acid-base balance of the animal organism and the mechanism of systemic homeostasis	P7S_WG
A.W6	basic reactions of organic and inorganic compounds in aqueous solutions	P7S_WG
A.W7	the physical laws describing fluid flow and factors affecting vascular resistance to blood flow;	P7S_WG
A.W8	physicochemical and molecular basis of the functioning of sensory organs	P7S_WG
A.W9	mechanism of neurohormonal regulation, reproduction, aging and death	P7S_WG
A.W10	the principles and mechanisms underlying animal health, disease formation and therapy - from the cellular level, through the organ, animal, animal herd, to the entire animal population	P7S_WG
A.W11	the relationship between factors disturbing the equilibrium state of biological processes and physiological and pathophysiological changes;	P7S_WG
A.W12	pathophysiological changes in animal cells, tissues, organs, and systems and biological mechanisms, including immunological mechanisms, and therapeutic options for recovery	P7S_WG
A.W13	biology of infectious agents causing animal-transmitted diseases and anthroozoonoses, including mechanisms of disease transmission and the body's defense mechanisms	P7S_WG
A.W14	principles and processes of inheritance and genetic disorders and fundamentals of genetic engineering	P7S_WG
A.W15	basics of microbiological diagnostics	P7S_WG
A.W16	mechanisms of action, fate in the body, adverse reactions and interactions of groups of veterinary medicinal products for use in the target animal species	P7S_WG
A.W17	the use of antibacterial and antiparasitic chemotherapy	P7S_WG
A.W18	mechanisms of acquiring drug resistance, including multi-drug resistance by microorganisms and cancer cells	P7S_WG
A.W19	the procedures and elements necessary to issue a prescription for veterinary medicinal products	P7S_WG
A.W20	Polish and Latin medical nomenclature	P7S_WG
A.W21	types of poisoning occurring in animals and the principles of diagnostic and therapeutic procedures in poisoning	P7S_WG
A.W22	code of ethics for veterinarians	P7S_WK
A.W23	concepts of intellectual property protection.	P7S_WK

**SKILLS**  
the graduate is able to:

A.U1.	use knowledge of the laws of physics to explain the effects of external factors (temperature, pressure, electromagnetic field, ionising radiation) on the animal organism	P7S_UW
A.U2.	use basic laboratory techniques such as qualitative analysis, titration, colorimetry, pH monitoring, chromatography, electrophoresis of proteins and nucleic acids;	P7S_UW
A.U3	calculate molar and percentage concentrations of substances and compounds in isoosmotic solutions	P7S_UW
A.U4	describe changes in the functioning of the organism when homeostasis is disturbed	P7S_UW
A.U5	predict the direction of biochemical processes in relation to the energy status of cells	P7S_UW
A.U6	explain the anatomical basis of the physical examination, with attention to specific animal species	P7S_UW
A.U7	define a physiological state as an animal's adaptation to changing environmental factors	P7S_UW
A.U8	recognise in the images from an optical microscope histological structures corresponding to organs, tissues and cells, make their description, interpret their structure and relations between their structure and function, taking into account the species of the animal from which they come	P7S_UW
A.U9	analyse genetic crosses and pedigrees of the traits of individuals from particular species	P7S_UW
A.U10	perform basic microbiological diagnostics	P7S_UW
A.U11	select and apply rational empirical and targeted antimicrobial chemotherapy, taking into account the target animal species	P7S_UW
A.U12	communicate with clients and with other veterinarians	P7S_UW
A.U13	listen and respond in language that is understandable and appropriate to the situation	P7S_UK
A.U14	prepare clear case descriptions and maintain records, in accordance with applicable regulations, in a form that is understandable to the animal owner and readable by other veterinarians;	P7S_UW P7S_UK
A.U15	work in a multidisciplinary team	P7S_UK P7S_UO
A.U16	interpret the responsibility of a veterinarian in relation to the animal and its owner as well as towards society and the natural environment	P7S_UW
A.U17	estimate the toxicological hazard in specific technological groups of livestock	P7S_UW
A.U18	evaluate economic and social conditions under which the veterinary profession is practiced	P7S_UG
A.U19	use professional skills to improve the quality of veterinary care, animal welfare and public health	P7S_UG
A.U20	organise and operate a veterinary practice, including calculating fees and issuing invoices, maintaining financial and	P7S_UW

	medical records, and using information systems to effectively communicate, collect, process, transmit, and analyse information	P7S_UU P7S_UO
A.U21	understand the need for continuing education for continuous professional development	P7S_UU
A.U22	adapt to the changing situation on the labour market	P7S_UU
A.U23	seek advice and assistance from specialised organisational units or individuals in solving problems	P7S_UO

### CLASSES IN THE AREA OF SPECIALISATION

#### KNOWLEDGE

**the graduate knows and understands:**

B.W1.	disorders at the cell, tissue, organ, system, and organism level in the course of disease	P7S_WG
B.W2	mechanisms of organ and systemic pathologies	P7S_WG
B.W3	causes and symptoms of anatomopathological changes, principles of treatment and prevention in individual disease entities	P7S_WG
B.W4	principles of diagnostic procedures, including differential diagnosis, and therapeutic procedures	P7S_WG
B.W5	principles of clinical examination and animal health monitoring	P7S_WG
B.W6	the handling of clinical data and results of laboratory and additional tests	P7S_WG
B.W7	law regulations, rules of issuing rulings and preparing opinions for courts, state and local administration bodies and professional self-government	P7S_WK
B.W8	methods of dealing with suspected or confirmed diseases subject to eradication or registration	P7S_WK
B.W9	principles for ensuring animal welfare	P7S_WK P7S_WG
B.W10	principle of parasite-host system functioning and basic disease symptoms and anatomopathological changes caused by parasites in the host organism	P7S_WG
B.W11	breeds within animal species and principles of animal husbandry	P7S_WG
B.W12	principles of animal selection for mating, methods of fertilisation and biotechnology of reproduction and breeding selection	P7S_WG
B.W13	principles of animal nutrition taking into account species differences and age	P7S_WG
B.W14	principles for ration formulation and analysis	P7S_WG

B.W15	ways of managing and disposing of by-products and waste associated with animal production	P7S_WG
B.W16	the principles of functioning of the Veterinary Inspection, also in the aspect of public health	P7S_WK
B.W17	principles of consumer health protection ensured by appropriate supervision of the production of foodstuffs of animal origin	P7S_WK
B.W18	control systems according to HACCP( <i>Hazard Analysis and Critical Control Points</i> ) procedures	P7S_WG P7S_WK
B.W19	ante- and post-mortem inspection procedures	P7S_WG
B.W20	conditions of hygiene and technology of animal production	P7S_WG
B.W21	principles of food law	P7S_WK
B.W22	principles of animal production economics	P7S_WK

**SKILLS**  
**the graduate is able to:**

B.U1	handle animals safely and humanely and instruct others to do so	P7S_UW
B.U2	conduct a medical and veterinary interview in order to obtain accurate information about a single animal or group of animals and its or their habitat	P7S_UW
B.U3	carry out a full clinical examination of the animal	P7S_UW
B.U4	give first aid to animals in case of haemorrhage, wounds, respiratory distress, eye and ear injuries, loss of consciousness, cachexia, burns, tissue damage, internal injuries and cardiac arrest	P7S_UW
B.U5	evaluate and advise on an animal's nutritional status	P7S_UW
B.U6	take and secure samples for testing and perform standard laboratory tests, and correctly analyse and interpret laboratory test results	P7S_UW
B.U7	use diagnostic equipment, including radiological, ultrasound and endoscopic equipment, in accordance with their intended use and safety rules for animals and humans, and interpret test results obtained after their use	P7S_UW
B.U8	implement appropriate procedures in case of confirmation of a disease subject to eradication or registration	P7S_UW
B.U9	obtain and use information on authorised veterinary medicinal products	P7S_UW P7S_UU
B.U10	prescribe and use veterinary medicinal products and medical supplies, including their safe storage and disposal	P7S_UW

B.U11	use methods of safe sedation, general and local anesthesia, and pain assessment and relief	P7S_UW
B.U12	monitor the patient's condition in the intraoperative and postoperative period based on basic vital signs	P7S_UW
B.U13	select and apply appropriate treatment	P7S_UW
B.U14	implement the principles of surgical asepsis and antisepsis and use appropriate methods to sterilise equipment	P7S_UW
B.U15	assess the need to euthanise the animal and properly inform the owner, and euthanise the animal in accordance with professional ethics and proper handling of the remains	P7S_UW P7S_UK
B.U16	dissect the animal's body with its description, take samples and secure them for transport	P7S_UW
B.U17	perform ante- and post-mortem inspection	P7S_UW
B.U18	assess the quality of products of animal origin	P7S_UW
B.U19	conduct an epizootic investigation to determine the period of time during which the contagious animal disease may have developed on the farm prior to the suspected or confirmed outbreak, the origin of the source of the contagious animal disease, including identification of other farms and the routes of movement of people, animals, and objects that may have caused the spread of the contagious disease to or from the farm	P7S_UW P7S_UK P7S_UO
B.U20	use collected information related to animal health and welfare and, in selected cases, to herd productivity	P7S_UW P7S_UU
B.U21	develop and implement species-specific prevention programmes	P7S_UW
B.U22	assess the risk of chemical and biological hazards in food of animal origin	P7S_UW
B.U23	take samples for monitoring tests for the presence of unauthorised substances, chemical residues, biological residues, medicinal products and radioactive contamination in animals, their secretions, excrements, animal tissues or organs, products of animal origin, food, water intended for animal watering and feed	P7S_UW
B.U24	assess compliance with the protection requirements for animals for slaughter, taking into account the different methods of slaughter	P7S_UW
B.U25	assess the risk of contamination, cross-contamination, and accumulation of pathogens in veterinary facilities and the natural environment, and make recommendations to minimise these risks	P7S_UW P7S_UO

## COMPLEMENTARY CLASSES

### KNOWLEDGE

**the graduate knows and understands:**

C.W1	vocabulary and grammatical structures of at least one foreign language being a language of international communication at B2+ level of the Common European Framework of Reference for Languages and specialist terminology in the veterinary field necessary in professional activity	P7S_WG
C.W2	the functioning of institutions related to veterinary activities and the social role of the veterinarian	P7S_WK
C.W3	principles of health and safety in veterinary activities	P7S_WK

### SKILLS

**the graduate is able to:**

C.U1	use at least one foreign language being a language of international communication at B2+ level of the Common European Framework of Reference for Languages, including specialist terminology in the veterinary field necessary for professional activity	P7S_UK
C.U2.	critically analyse the veterinary literature and draw conclusions based on the available literature	P7S_UW P7S_UU
C.U3	use and process information by applying IT tools and using modern sources of veterinary knowledge	P7S_UW
C.U4	communicate effectively with employees of control bodies and offices, government and local administration	P7S_UK

### SOCIAL COMPETENCES

**the graduate is ready to:**

K1	demonstrate responsibility for decisions made toward people, animals, and the natural environment	P7S_KK P7S_KR
K2	present an attitude in line with ethical principles and undertake actions based on the code of ethics in professional practice and to demonstrate tolerance towards attitudes and behaviours resulting from different social and cultural conditions	P7S_KR
K3	participate in conflict resolution, and demonstrate flexibility in responding to social changes	P7S_KK
K4	use objective sources of information	P7S_KK
K5	draw conclusions from their own measurements or observations	P7S_KK
K6	formulate opinions on various aspects of professional activities;	P7S_KO

		P7S_KR
K7	conduct a reliable self-assessment, formulate constructive criticism in the field of veterinary practice, accept criticism of the solutions presented by them, respond to it in a clear and factual manner, also use arguments referring to the available scientific achievements in the discipline	P7S_KK
K8	broaden knowledge and improve skills	P7S_KR
K9	communicate with colleagues and share knowledge	P7S_KK
K10	act under conditions of stress and uncertainty;	P7S_KK
K11	cooperate with representatives of other professions in the field of public health protection	P7S_KK
K12	engage in professional and community organisations	P7S_KO

**OTHER LEARNING OUTCOMES:**

**Knowledge - W-OTHER**

**Skills - U-OTHER**