SZKOŁA GŁÓWNA GOSPODARSTWA WIEJSKIEGO

Study programme

Veterinary Medicine

Faculty:	Faculty of Veterinary Medicine
Level of study:	long-cycle
Education profile:	General academic
Form of study:	full-time studies
Academic year:	2023/24

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Basic information

Faculty name:	Faculty of Veterinary Medicine
Major name:	Veterinary Medicine
Level of study:	long-cycle
Profile of study:	General academic
Form of study:	full-time studies
Duration of studies (number of semesters):	11
Number of ECTS required to complete the studies:	360
The number of ECTS points a student obtains during classes conducted with the direct participation of academic teachers or other persons conducting classes:	255
Professional title awarded to graduates:	lekarz weterynarii
ISCED code:	0841
Language of study:	english

Assigning the major to the fields and disciplines to which the learning outcomes relate

Veterinary medicine	100%

Major characteristics

Major characteristics

Education at the Faculty of Veterinary Medicine is provided full-time in English on a general academic profile. During the 11 semesters of study, students complete: basic science classes, directional classes (clinical sciences, animal production, food hygiene), supplementary classes, clinical internships and work placements. Training in the field of veterinary medicine is carried out based on: European regulations governing the training of veterinarians, i.e. Directive 2005/36/EC of the European Parliament and of the Council of September 7, 2005, on the recognition of professional qualifications (OJ L 255, 30.9.2005, p. 22; as amended); Regulation of the Minister of Science and Higher Education of July 17, 2019. on the standard of education preparing to practice veterinary medicine (Journal of Laws of 2019, item 1364); Requirements of the EAEVE Commission (European Association of Establishments for Veterinary Education) described in the European System of Evaluation of Veterinary Training (ESEVT SOP 2019, Uppsala 30 May 2019); Resolution of the Senate of the Warsaw University of Life Sciences No. 67-2019/2020 of 27. 01.2020 on the introduction of the System for Assurance and Improvement of Educational Quality at the Warsaw University of Life Sciences; Resolution of the Senate of the Warsaw University of Life Sciences 76 - 2020/2021 of February 22, 2021. on the guidelines for the creation and changes in the curricula of first-cycle, second-cycle and uniform master's degree programs starting from the academic year 2021/2022; the Faculty Education Quality Policy presented in the Faculty Education Quality Assurance and Improvement System reviewed by the Education Quality Team and the WMW Program Council on February 17, 2021.

Learning objectives

The training aims to prepare future graduates to practise veterinary medicine as a profession of public trust. The didactic assumptions align with the latest scientific achievements in the veterinary discipline and the requirements of current external and internal legal acts, including those authorising the practice of veterinary medicine. A key element of the model of education on the veterinary faculty is to enable students to acquire knowledge, skills, and competencies in a teaching environment that complies with the requirements of the EAEVE Commission as described in the European System of Evaluation of Veterinary Training. The concept of education for the veterinary faculty considers the needs of the labour market through continuous cooperation with the socio-economic environment in teaching and research activities.

Education concept

The concept of education in the field of veterinary medicine, through the appropriate selection of program content, allows students of uniform master's degree programs to master: knowledge to explain the principles and mechanisms underlying animal health, as well as the emergence of diseases and their therapy - from the level of the cell through the organ and the animal to the entire animal population; skills in analyzing and interpreting clinical signs, anatomopathological changes and the results of laboratory and additional tests; skills in diagnosing disease states, taking into account differential diagnosis; skills in and taking therapeutic or preventive actions; skills in so-called personal's skills - solving problems, collecting and communicating information in writing and orally, and skills in teamwork. The concept of education assumes that the graduate is prepared to a basic degree to carry out research and analytical work and can use the acquired skills to adapt to the needs of the labour market. He is prepared to work in public and private institutions. In accordance with the Decree of the Minister of Science and Higher Education of July 17, 2019 on the standard of education preparing to practice as a veterinarian (Journal of Laws of 2019, item 1364), education in the field of veterinary medicine assumes student participation in the following types of classes: lectures, exercises, clinical placements and professional practice. Basic and directional subjects are taught in the form of compulsory classes and optional classes, i.e. electives. The education is provided in the form of classes or groups of classes that prepare for the practice of veterinary medicine under groups of classes A-E.

- A: classes in the basic sciences (physics, chemistry, biochemistry, biology of the animal and plant world, microbiology, anatomy with histology and embryology, physiology, genetics, pharmacology, pharmacy, toxicology, immunology, epidemiology, applied mathematics of biological sciences, professional ethics);
- B: classes in the direction: clinical sciences (obstetrics, pathology with pathological anatomy, parasitology, general surgery with anesthesiology, laboratory and clinical diagnostics, clinical classes on internal diseases, infectious diseases, surgery and reproduction of domestic animals, diseases of poultry and other animals, prophylaxis, radiology, reproduction and reproductive disorders, organization and functioning of the Veterinary Inspection, public health, veterinary legislation, forensic medicine, therapeutic procedure, propaedeutics); Animal production

(technologies in animal production, animal nutrition, agronomy, agricultural economics, animal husbandry, veterinary hygiene, ethology and animal protection); Food hygiene (inspection and control of feed and foodstuffs of animal origin, food hygiene and technology, practical training, including slaughterhouses and processing plants for foodstuffs of animal origin);

- C: Complementary classes (especially foreign languages and computer science);
- D: clinical internships;
- E: apprenticeships.

Each group's theoretical and practical training is distributed, balanced and coordinated so that the acquired knowledge and skills allow the veterinarian to carry out all the tasks assigned to him. At the Faculty of Veterinary Medicine are conducted studies with an all-academic profile, i.e., the study program includes classes and groups of classes related to scientific activities in the discipline of veterinary medicine, to which ECTS credits are assigned at a rate of more than 50% of the number of ECTS credits necessary for graduation, and takes into account the participation of students in classes preparing for or participating in scientific activities.

Description of work placement (if provided for in the study programme)

Professional practice includes learning about the practical aspects of veterinary medical management on animal production farms, animal treatment plants, slaughterhouses and animal product processing and animal feed production plants, and animal insemination. Professional practice should be assigned 21 ECTS points. Taking into account the importance of the subject matter covered by each internship, ECTS points are assigned as follows: breeding practice (after four sem.) - 3 ECTS, clinical practice (after eight sem.) - 6 ECTS, practice at the Veterinary Inspection (after sem. 8, i.e., at the slaughterhouse) - 3 ECTS, clinical practice (after 10 sem.) - 6 ECTS, practice in Veterinary Inspection (after sem. 10, i.e. in a processing plant) - 3 ECTS. All internships are carried out with external stakeholders and are assigned to individual subjects. The student must keep an internship log, which the external stakeholder must confirm. After professional practice, the student passes the subject with the assigned academic teachers and obtains a grade.

Graduate profile

Graduate of the Master's Degree in Veterinary Medicine knows and understands the principles of functioning of the animal organism in a state of preserved homeostasis and during disturbances at the level of the cell, tissue, organ and system. He understands the causes of diseases, can recognize and interpret the symptoms of anatomopathological changes, and can implement appropriate treatment in individual disease entities. Can apply appropriate preventive programs. Knows the provisions of veterinary administrative law, the principles of making judgments and preparing opinions for courts, state and local government bodies and professional self-government. Knows how to proceed in the case of suspicion or detection of diseases subject to mandatory eradication or registration, the principles of ensuring animal welfare. Has general knowledge of the assumptions of selection of animals for mating, methods of insemination and biotechnology of reproduction and breeding selection, as well as the principles of animal nutrition taking into account species differences and age. Knows how to manage and dispose of by-products and wastes associated with animal production and the principles of Veterinary Inspection, including public health. He knows the principles of consumer health protection ensured by proper supervision of the production of foodstuffs of animal origin and obligatory food safety management systems (Hazard Analysis and Critical Control Points). A veterinary medicine graduate knows the need for continuing education to improve professional skills and enhance personal competencies when practising a profession of public trust.

Effects

Knowledge

Detailed

A. Zajęcia w zakresie nauk podstawowych

Code	Contents	PRK
A.W1	Absolwent zna i rozumie strukturę organizmu zwierzęcego: komórek, tkanek, narządów i układów	P7S_WG
A.W2	Absolwent zna i rozumie budowę, czynność i mechanizmy regulacji narządów i układów organizmu zwierzęcego (oddechowego, pokarmowego, krążenia, wydalniczego, nerwowego, rozrodczego, hormonalnego, immunologicznego i powłok skórnych oraz ich integracji na poziomie organizmu	P7S_WG
A.W3	Absolwent zna i rozumie rozwój narządów i całego organizmu zwierzęcego w relacji do organizmu dojrzałego	P7S_WG
A.W4	Absolwent zna i rozumie procesy metaboliczne na poziomie molekularnym, komórkowym, narządowym i ustrojowym	P7S_WG
A.W5	Absolwent zna i rozumie zasady działania gospodarki wodno-elektrolitowej, równowagi kwasowo-zasadowej organizmu zwierzęcego oraz mechanizm działania homeostazy ustrojowej	P7S_WG
A.W6	Absolwent zna i rozumie podstawowe reakcje związków organicznych i nieorganicznych w roztworach wodnych	P7S_WG
A.W7	Absolwent zna i rozumie prawa fizyczne opisujące przepływ cieczy oraz czynniki wpływające na opór naczyniowy przepływu krwi	P7S_WG
A.W8	Absolwent zna i rozumie fizykochemiczne i molekularne podstawy działania narządów zmysłów	P7S_WG
A.W9	Absolwent zna i rozumie mechanizm regulacji neurohormonalnej, reprodukcji, starzenia się i śmierci	P7S_WG
A.W10	Absolwent zna i rozumie zasady i mechanizmy leżące u podstaw zdrowia zwierząt, powstawania chorób i ich terapii - od poziomu komórki, przez narząd, zwierzę, stado zwierząt do całej populacji zwierząt	P7S_WG
A.W11	Absolwent zna i rozumie związek pomiędzy czynnikami zaburzającymi stan równowagi procesów biologicznych organizmu zwierzęcego a zmianami fizjologicznymi i patofizjologicznymi	P7S_WG
A.W12	Absolwent zna i rozumie zmiany patofizjologiczne komórek, tkanek, narządów i układów zwierząt oraz mechanizmy biologiczne, w tym immunologiczne, a także możliwości terapeutyczne umożliwiające powrót do zdrowia	P7S_WG
A.W13	Absolwent zna i rozumie biologię czynników zakaźnych wywołujących choroby przenoszone między zwierzętami oraz antropozoonozy, z uwzględnieniem mechanizmów przenoszenia choroby oraz mechanizmów obronnych organizmu	P7S_WG
A.W14	Absolwent zna i rozumie zasady i procesy dziedziczenia oraz zaburzenia genetyczne i podstawy inżynierii genetycznej	P7S_WG
A.W15	Absolwent zna i rozumie podstawy diagnostyki mikrobiologicznej	P7S_WG
A.W16	Absolwent zna i rozumie mechanizmy działania, losy w ustroju, działania niepożądane oraz wzajemne interakcje grup weterynaryjnych produktów leczniczych stosowanych u docelowych gatunków zwierząt	P7S_WG

Code	Contents	PRK
A.W17	Absolwent zna i rozumie zastosowanie chemioterapii przeciwbakteryjnej i przeciwpasożytniczej	P7S_WG
A.W18	Absolwent zna i rozumie mechanizmy nabywania lekooporności, w tym oporności wielolekowej przez drobnoustroje oraz komórki nowotworowe	P7S_WG
A.W19	Absolwent zna i rozumie procedury i elementy niezbędne do wystawienia recepty na weterynaryjne produkty lecznicze	P7S_WG
A.W20	Absolwent zna i rozumie polską i łacińską nomenklaturę medyczną	P7S_WG
A.W21	Absolwent zna i rozumie rodzaje zatruć występujących u zwierząt oraz zasady postępowania diagnostycznego i terapeutycznego w zatruciach	P7S_WG
A.W22	Absolwent zna i rozumie kodeks etyki lekarza weterynarii	
A.W23	Absolwent zna i rozumie pojęcia z zakresu ochrony własności intelektualnej	

B. Zajęcia w zakresie kierunkowym

Code	Contents	PRK
B.W1	Absolwent zna i rozumie zaburzenia na poziomie komórki, tkanki, narządu, układu i organizmu w przebiegu choroby	P7S_WG
B.W2	Absolwent zna i rozumie mechanizmy patologii narządowych i ustrojowych	P7S_WG
B.W3	Absolwent zna i rozumie przyczyny i objawy zmian anatomopatologicznych, zasady leczenia i zapobiegania w poszczególnych jednostkach chorobowych	P7S_WG
B.W4	Absolwent zna i rozumie zasady postępowania diagnostycznego, z uwzględnieniem diagnostyki różnicowej, oraz postępowania terapeutycznego	P7S_WG
B.W5	Absolwent zna i rozumie zasady przeprowadzania badania klinicznego i monitorowania stanu zdrowia zwierząt	P7S_WG
B.W6	Absolwent zna i rozumie sposób postępowania z danymi klinicznymi i wynikami badań laboratoryjnych i dodatkowych	P7S_WG
B.W7	Absolwent zna i rozumie przepisy prawa, zasady wydawania orzeczeń i sporządzania opinii na potrzeby sądów, organów administracji państwowej i samorządowej oraz samorządu zawodowego	P7S_WG
B.W8	Absolwent zna i rozumie sposób postępowania w przypadku podejrzenia lub stwierdzenia chorób podlegających obowiązkowi zwalczania lub rejestracji	P7S_WG
B.W9	Absolwent zna i rozumie zasady zapewniania dobrostanu zwierząt	P7S_WG
B.W10	Absolwent zna i rozumie zasadę funkcjonowania układu pasożyt-żywiciel i podstawowe objawy chorobowe i zmiany anatomopatologiczne wywołane przez pasożyty w organizmie gospodarza	P7S_WG
B.W11	Absolwent zna i rozumie rasy w obrębie gatunków zwierząt oraz zasady chowu i hodowli zwierząt	P7S_WG
B.W12	Absolwent zna i rozumie założenia doboru zwierząt do kojarzeń, metody zapładniania i biotechnologii rozrodu oraz selekcji hodowlanej	P7S_WG
B.W13	Absolwent zna i rozumie zasady żywienia zwierząt z uwzględnieniem różnic gatunkowych i wieku	P7S_WG
B.W14	Absolwent zna i rozumie zasady układania i analizowania dawek pokarmowych	P7S_WG
B.W15	Absolwent zna i rozumie sposoby zagospodarowywania i utylizacji produktów ubocznych i odpadów związanych z produkcją zwierzęcą	P7S_WG
B.W16	Absolwent zna i rozumie zasady funkcjonowania Inspekcji Weterynaryjnej, także w aspekcie zdrowia publicznego	P7S_WG

Code	Contents	PRK
B.W17	Absolwent zna i rozumie zasady ochrony zdrowia konsumenta zapewniane przez właściwy nadzór nad produkcją środków spożywczych pochodzenia zwierzęcego	P7S_WG
B.W18	Absolwent zna i rozumie systemy kontroli zgodne z procedurami HACCP (Hazard Analysis and Critical Control Points) - Systemu Analizy Zagrożeń i Krytycznych Punktów Kontroli	P7S_WG
B.W19	Absolwent zna i rozumie procedury badania przed- i poubojowego	P7S_WG
B.W20	Absolwent zna i rozumie warunki higieny i technologii produkcji zwierzęcej	P7S_WG
B.W21	Absolwent zna i rozumie zasady prawa żywnościowego	
B.W22	Absolwent zna i rozumie zasady ekonomiki produkcji zwierzęcej	

C. Zajęcia uzupełniające

Code	Contents	PRK
C.W1	Absolwent zna i rozumie słownictwo i struktury gramatyczne co najmniej jednego języka obcego będącego językiem komunikacji międzynarodowej na poziomie B2+ Europejskiego Systemu Opisu Kształcenia Językowego oraz specjalistyczną terminologię z zakresu weterynarii niezbędną w działalności zawodowej	P7S_WG
C.W2	Absolwent zna i rozumie funkcjonowanie instytucji powiązanych z działalnością weterynaryjną oraz społeczną rolę lekarza weterynarii	
C.W3	Absolwent zna i rozumie zasady bezpieczeństwa i higieny pracy w działalności weterynaryjnej	

Skills

Detailed

A. Zajęcia w zakresie nauk podstawowych

Code	Contents	PRK
A.U1	Absolwent potrafi wykorzystywać znajomość praw fizyki do wyjaśnienia wpływu czynników zewnętrznych (temperatury, ciśnienia, pola elektromagnetycznego, promieniowania jonizującego) na organizm zwierzęcy	P7S_UW
A.U2	Absolwent potrafi posługiwać się podstawowymi technikami laboratoryjnymi, takimi jak: analiza jakościowa, miareczkowanie, kolorymetria, pehametria, chromatografia oraz elektroforeza białek i kwasów nukleinowych	P7S_UW
A.U3	Absolwent potrafi obliczyć stężenie molowe i procentowe substancji i związków w roztworach izoosmotycznych	P7S_UW
A.U4	Absolwent potrafi opisać zmiany funkcjonowania organizmu w sytuacji zaburzeń homeostazy	P7S_UW
A.U5	Absolwent potrafi przewidywać kierunek procesów biochemicznych w zależności od stanu energetycznego komórek	P7S_UW
A.U6	Absolwent potrafi wyjaśniać anatomiczne podstawy badania przedmiotowego, z uwzględnieniem poszczególnych gatunków zwierząt	P7S_UW
A.U7	Absolwent potrafi definiować stan fizjologiczny jako adaptację zwierzęcia do zmieniających się czynników środowiska	P7S_UW

Code	Contents	PRK
A.U8	Absolwent potrafi rozpoznawać w obrazach z mikroskopu optycznego struktury histologiczne odpowiadające narządom, tkankom i komórkom, dokonywać ich opisu, interpretować ich budowę oraz relacje między ich budową a czynnością, uwzględniając gatunek zwierzęcia, z którego pochodzą	P7S_UW
A.U9	Absolwent potrafi analizować krzyżówki genetyczne i rodowody cech osobników z poszczególnych gatunków	P7S_UW
A.U10	Absolwent potrafi przeprowadzić podstawową diagnostykę mikrobiologiczną	P7S_UW
A.U11	Absolwent potrafi wybrać i zastosować racjonalną chemioterapię przeciwbakteryjną empiryczną i celowaną, z uwzględnieniem docelowego gatunku zwierzęcia	P7S_UW
A.U12	Absolwent potrafi komunikować się z klientami i z innymi lekarzami weterynarii	P7S_UK
A.U13	Absolwent potrafi słuchać i udzielać odpowiedzi językiem zrozumiałym, odpowiednim do sytuacji	P7S_UK
A.U14	Absolwent potrafi sporządzać przejrzyste opisy przypadków oraz prowadzić dokumentację, zgodnie z obowiązującymi w tym zakresie przepisami, w formie zrozumiałej dla właściciela zwierzęcia i czytelnej dla innych lekarzy weterynarii	P7S_UK
A.U15	Absolwent potrafi pracować w zespole multidyscyplinarnym	P7S_UO
A.U16	Absolwent potrafi interpretować odpowiedzialność lekarza weterynarii w stosunku do zwierzęcia i jego właściciela oraz w stosunku do społeczeństwa i środowiska przyrodniczego	P7S_UO
A.U17	Absolwent potrafi szacować niebezpieczeństwo toksykologiczne w określonych grupach technologicznych zwierząt gospodarskich	P7S_UO
A.U18	Absolwent potrafi oceniać ekonomiczne i społeczne uwarunkowania, w jakich jest wykonywany zawód lekarza weterynarii	P7S_UU
A.U19	Absolwent potrafi wykorzystywać umiejętności zawodowe w celu podwyższania jakości opieki weterynaryjnej, dobrostanu zwierząt i zdrowia publicznego	P7S_UU
A.U20	Absolwent potrafi organizować i prowadzić praktykę weterynaryjną, w tym dokonywać kalkulacji opłat i wystawiać faktury, prowadzić dokumentację finansową i lekarską oraz wykorzystywać systemy informatyczne do efektywnej komunikacji, zbierania, przetwarzania, przekazywania i analizy informacji	P7S_UU
A.U21	Absolwent potrafi zrozumieć potrzebę kształcenia ustawicznego w celu ciągłego rozwoju zawodowego	P7S_UU
A.U22	Absolwent potrafi dostosować się do zmieniającej się sytuacji na rynku pracy	P7S_UU
A.U23	Absolwent potrafi korzystać z rady i pomocy wyspecjalizowanych jednostek organizacyjnych lub osób w rozwiązywaniu problemów	P7S_UU

B. Zajęcia w zakresie kierunkowym

Code	Contents	PRK
B.U1	Absolwent potrafi bezpiecznie i humanitarnie postępować ze zwierzętami oraz instruować innych w tym zakresie	P7S_UW
B.U2	Absolwent potrafi przeprowadzić wywiad lekarsko-weterynaryjny w celu uzyskania dokładnej informacji o pojedynczym zwierzęciu lub grupie zwierząt oraz jego lub ich środowisku bytowania	P7S_UW
B.U3	Absolwent potrafi przeprowadzać pełne badanie kliniczne zwierzęcia	P7S_UW
B.U4	Absolwent potrafi udzielać pierwszej pomocy zwierzętom w przypadku krwotoku, ran, zaburzeń oddechowych, urazów oka i ucha, utraty przytomności, wyniszczenia, oparzenia, uszkodzenia tkanek, obrażeń wewnętrznych i zatrzymania pracy serca	P7S_UW

Code	Contents	PRK
B.U5	Absolwent potrafi oceniać stan odżywienia zwierzęcia oraz udzielać porad w tym zakresie	P7S_UW
B.U6	Absolwent potrafi pobierać i zabezpieczać próbki do badań oraz wykonywać standardowe testy laboratoryjne, a także prawidłowo analizować i interpretować wyniki badań laboratoryjnych	P7S_UW
B.U7	Absolwent potrafi stosować aparaturę diagnostyczną, w tym radiologiczną, ultrasonograficzną i endoskopową, zgodnie z jej przeznaczeniem i zasadami bezpieczeństwa dla zwierząt i ludzi oraz interpretować wyniki badań uzyskane po jej zastosowaniu	P7S_UW
B.U8	Absolwent potrafi wdrażać właściwe procedury w przypadku stwierdzenia choroby podlegającej obowiązkowi zwalczania lub rejestracji	P7S_UW
B.U9	Absolwent potrafi pozyskiwać i wykorzystywać informacje o weterynaryjnych produktach leczniczych dopuszczonych do obrotu	P7S_UW
B.U10	Absolwent potrafi przepisywać i stosować weterynaryjne produkty lecznicze oraz materiały medyczne, z uwzględnieniem ich bezpiecznego przechowywania i utylizacji	P7S_UW
B.U11	Absolwent potrafi stosować metody bezpiecznej sedacji, ogólnego i miejscowego znieczulenia oraz oceny i łagodzenia bólu	P7S_UW
B.U12	Absolwent potrafi monitorować stan pacjenta w okresie śród- i pooperacyjnym w oparciu o podstawowe parametry życiowe	P7S_UW
B.U13	Absolwent potrafi dobierać i stosować właściwe leczenie	P7S_UW
B.U14	Absolwent potrafi wdrożyć zasady aseptyki i antyseptyki chirurgicznej oraz stosować właściwe metody sterylizacji sprzętu	P7S_UW
B.U15	Absolwent potrafi ocenić konieczność przeprowadzenia eutanazji zwierzęcia i we właściwy sposób poinformować o tym jego właściciela, a także przeprowadzić eutanazję zwierzęcia zgodnie z zasadami etyki zawodowej oraz właściwego postępowania ze zwłokami	P7S_UW
B.U16	Absolwent potrafi wykonać sekcję zwłok zwierzęcia wraz z opisem, pobrać próbki i zabezpieczyć je do transportu	P7S_UW
B.U17	Absolwent potrafi wykonać badanie przed- i poubojowe	P7S_UW
B.U18	Absolwent potrafi ocenić jakość produktów pochodzenia zwierzęcego	P7S_UW
B.U19	Absolwent potrafi przeprowadzić dochodzenie epizootyczne w celu ustalenia okresu, w którym choroba zakaźna zwierząt mogła rozwijać się w gospodarstwie przed podejrzeniem lub stwierdzeniem jej wystąpienia, miejsca pochodzenia źródła choroby zakaźnej zwierząt wraz z ustaleniem innych gospodarstw oraz dróg przemieszczania się ludzi, zwierząt i przedmiotów, które mogły być przyczyną szerzenia się choroby zakaźnej do lub z gospodarstwa	P7S_UW
B.U20	Absolwent potrafi korzystać ze zgromadzonych informacji związanych ze zdrowiem i dobrostanem zwierząt, a w wybranych przypadkach również z produkcyjnością stada	P7S_UW
B.U21	Absolwent potrafi opracowywać i wprowadzać programy profilaktyczne właściwe dla poszczególnych gatunków zwierząt	P7S_UW
B.U22	Absolwent potrafi oszacować ryzyko wystąpienia zagrożeń chemicznych i biologicznych w żywności pochodzenia zwierzęcego	P7S_UW
B.U23	Absolwent potrafi pobrać próby do badań monitoringowych na obecność substancji niedozwolonych, pozostałości chemicznych, biologicznych, produktów leczniczych i skażeń promieniotwórczych u zwierząt, w ich wydzielinach, wydalinach, w tkankach lub narządach zwierząt, w produktach pochodzenia zwierzęcego, żywności, w wodzie przeznaczonej do pojenia zwierząt i w paszach	P7S_UW
B.U24	Absolwent potrafi ocenić spełnienie wymagań ochrony zwierząt rzeźnych z uwzględnieniem różnych sposobów ubojów	P7S_UW

Code	Contents	PRK
B.U25	Absolwent potrafi ocenić ryzyko skażenia, zakażenia krzyżowego i akumulacji czynników chorobotwórczych w obiektach weterynaryjnych i w środowisku przyrodniczym oraz wprowadzić zalecenia minimalizujące to ryzyko	P7S_UW

C. Zajęcia uzupełniające

Code	Contents	PRK
C.U1	Absolwent potrafi posługiwać się co najmniej jednym językiem obcym będącym językiem komunikacji międzynarodowej na poziomie B2+ Europejskiego Systemu Opisu Kształcenia Językowego, w tym specjalistyczną terminologią z zakresu weterynarii niezbędną w działalności zawodowej;	P7S_UK
C.U2	Absolwent potrafi krytycznie analizować piśmiennictwo weterynaryjne oraz wyciągać wnioski w oparciu o dostępną literaturę	P7S_UK
C.U3	Absolwent potrafi wykorzystywać i przetwarzać informacje, stosując narzędzia informatyczne i korzystając z nowoczesnych źródeł wiedzy weterynaryjnej	P7S_UK
C.U4	Absolwent potrafi efektywnie komunikować się z pracownikami organów i urzędów kontroli, administracji rządowej i samorządowej	P7S_UK

Social competence

General

Code	Contents	PRK
KS.1	Absolwent jest gotów do wykazywania odpowiedzialności za podejmowane decyzje wobec ludzi, zwierząt i środowiska przyrodniczego	P7S_KK
KS.2	Absolwent jest gotów do prezentowania postawy zgodnej z zasadami etycznymi i podejmowania działań w oparciu o kodeks etyki w praktyce zawodowej oraz do wykazywania tolerancji dla postaw i zachowań wynikających z odmiennych uwarunkowań społecznych i kulturowych	P7S_KK
KS.3	Absolwent jest gotów do udziału w rozwiązywaniu konfliktów, a także wykazywania się elastycznością w reakcjach na zmiany społeczne	P7S_KO
KS.4	Absolwent jest gotów do korzystania z obiektywnych źródeł informacji	P7S_KO
KS.5	Absolwent jest gotów do formułowania wniosków z własnych pomiarów lub obserwacji	P7S_KO
KS.6	Absolwent jest gotów do formułowania opinii dotyczących różnych aspektów działalności zawodowej	P7S_KO
KS.7	Absolwent jest gotów do rzetelnej samooceny, formułowania konstruktywnej krytyki w zakresie praktyki weterynaryjnej, przyjmowania krytyki prezentowanych przez siebie rozwiązań, ustosunkowywania się do niej w sposób jasny i rzeczowy, także przy użyciu argumentów odwołujących się do dostępnego dorobku naukowego w dyscyplinie	P7S_KO
KS.8	Absolwent jest gotów do pogłębiania wiedzy i doskonalenia umiejętności	P7S_KO
KS.9	Absolwent jest gotów do komunikowania się ze współpracownikami i dzielenia się wiedzą	P7S_KR
KS.10	Absolwent jest gotów do działania w warunkach niepewności i stresu	P7S_KR

Code	Contents	PRK
KS.11	Absolwent jest gotów do współpracy z przedstawicielami innych zawodów w zakresie ochrony zdrowia publicznego	P7S_KR
KS.12	Absolwent jest gotów do angażowania się w działalność organizacji zawodowych i samorządowych	P7S_KR

Study plan

Semester 1

In semester 1, students complete library training and a health and safety course on a platform available at https://szkolenia.sggw.pl

Subject	Number of hours	ECTS points	Form of verification	
Animal anatomy (1)	Lecture: 30 Laboratory exercises: 60	8	Pass with grade	O
Biology	Lecture: 30	2	Pass with grade	O
Biophysic	Lecture: 30	2	Exam	O
Cell Biology	Lecture: 15 Laboratory exercises: 15	2	Exam	O
Chemistry	Lecture: 15 Laboratory exercises: 30	3	Exam	O
Copyrights in academia	Lecture: 15	1	Pass with grade	O
Electives sem 1	Contact hours: 75	3	Pass with grade	G
Open catalog, minimum choice of 5 ECTS				
Calculus	Lecture: 7 Laboratory exercises: 8	1	Pass with grade	F
Intercultural communication	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	F
Introductory Polish	Auditorium exercises: 30	2	Pass with grade	F
Successful learning	Lecture: 15	1	Pass with grade	F
Histology and embroylogy (1)	Lecture: 15 Laboratory exercises: 15	3	Pass with grade	O
Information Technology	Auditorium exercises: 30	2	Pass with grade	O
Latin	Auditorium exercises: 30	2	Pass with grade	O
OHS training	OHS training: 4	0	Pass	O
Physical education	Physical education: 30	0	Pass	O
Sum	**439**	**28**		

Semester 2

Subject	Number of hours	ECTS points	Form of verification	
Agronomy	Auditorium exercises: 15	1	Pass with grade	O
Animal anatomy (2)	Lecture: 30 Laboratory exercises: 60	8	Exam	O

Subject	Number of hours	ECTS points	Form of verification	
Biochemistry (1)	Lecture: 15 Laboratory exercises: 45	4	Pass with grade	O
Biostatistics and methods of documentation	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	O
Environmental protection	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	O
General and veterinary genetics	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	O
Histology and embroylogy (2)	Lecture: 30 Laboratory exercises: 30	5	Exam	O
History of veterinary and deontology	Lecture: 30	2	Pass with grade	O
Physical education	Physical education: 30	0	Pass	O
Polish language (1)	Language course: 0 Auditorium exercises: 30	2	Pass with grade	O
Electives sem 2	Lecture: 30	2	Pass with grade	G
Open catalog, minimum choice of 2 ECTS				
Aquaculture and exotic animals care	Lecture: 30	2	Pass with grade	F
Breeds and varieties of dogs and cats	Lecture: 15	1	Pass with grade	F
Successful learning (2)	Laboratory exercises: 15	1	Pass with grade	F
Sum	**435**	**30**		

Semester 3

Subject	Number of hours	ECTS points	Form of verification	
Animal husbandry and breeding	Lecture: 30 Field exercises: 15	3	Exam	O
Animal physiology (1)	Lecture: 30 Laboratory exercises: 36 Ćwiczenia seminaryjne: 9	6	Pass with grade	O
Biochemistry (2)	Lecture: 30 Laboratory exercises: 45	6	Exam	O
Comparative anatomy	Laboratory exercises: 45	4	Pass with grade	O
Ethology	Lecture: 30	2	Pass with grade	O
Molecular cell physiology	Lecture: 30	2	Pass with grade	O
Polish language (2)	Auditorium exercises: 60	4	Pass with grade	O
Technologies in animal production	Lecture: 30	2	Pass with grade	O
Veterinary economics	Lecture: 15	1	Pass with grade	O
Veterinary epidemiology	Laboratory exercises: 30	2	Pass with grade	O

Subject	Number of hours	ECTS points	Form of verification	
Veterinary microbiology (1)	Lecture: 30 Laboratory exercises: 45	5	Pass with grade	O
Electives sem 3	Lecture: 30	2	Pass with grade	G
Open catalog, minimum choice of 2 ECTS				
Animal rights - legal protection system	Lecture: 15	1	Pass with grade	F
Critical thinking	Lecture: 15	1	Pass with grade	F
Medical botany	Lecture: 15	1	Pass with grade	F
Sum	**540**	**39**		

Semester 4

Subject	Number of hours	ECTS points	Form of verification	
Animal nutrition and feeding	Lecture: 30 Laboratory exercises: 22 Ćwiczenia seminaryjne: 8	4	Exam	O
Animal physiology (2)	Lecture: 30 Laboratory exercises: 36 Ćwiczenia seminaryjne: 9	6	Exam	O
Immunology	Lecture: 15 Laboratory exercises: 15 Ćwiczenia seminaryjne: 15	4	Exam	O
Parasitology and invasiology (1)	Lecture: 30 Laboratory exercises: 30	4	Pass with grade	O
Polish language (3)	Auditorium exercises: 60	4	Pass with grade	O
Topographic anatomy	Lecture: 15 Laboratory exercises: 30	4	Pass with grade	O
Summer practice_Husbandry practice	Apprenticeships: 80	3	Exam	O
Veterinary microbiology (2)	Lecture: 30 Laboratory exercises: 45	5	Exam	O
Electives sem 4	Contact hours: 30	2	Pass with grade	G
Open catalog, minimum choice of 2 ECTS				
Clinical anatomy of rodents and rabbits	Lecture: 10 Laboratory exercises: 5	1	Pass with grade	F
Physiology of development	Lecture: 30	2	Pass with grade	F
Physiology of exercise	Lecture: 30	2	Pass with grade	F
Principles of animal handling	Lecture: 18 Field exercises: 12	2	Pass with grade	F
Principles of horse handling	Ćwiczenia kliniczne: 15	1	Pass with grade	F
Sum	**530**	**36**		

Semester 5

Subject	Number of hours	ECTS points	Form of verification	
Clinical and laboratory diagnostics (1)	Lecture: 30 Laboratory exercises: 6 Clinical classes: 8 Field exercises: 16	3	Pass with grade	O
Parasitology and invasiology (2)	Lecture: 15 Laboratory exercises: 30	3	Exam	O
Pathomorphology (1)	Lecture: 30 Laboratory exercises: 45	8	Pass with grade	O
Pathophysiology	Lecture: 60 Laboratory exercises: 45	8	Exam	O
Polish language (4)	Auditorium exercises: 30	2	Exam	O
Veterinary pharmacology (1)	Lecture: 30 Laboratory exercises: 30	4	Pass with grade	O
Electives sem 5	Contact hours: 30	2	Pass with grade	G
Open catalog, minimum choice of 2 ECTS				
Bacteriological and mycological laboratory diagnostics of skin infections in dogs and cats	Laboratory exercises: 15	1	Pass with grade	F
One Health in veterinary practice	Lecture: 10 Ćwiczenia seminaryjne: 5	1	Pass with grade	F
Veterinary virology	Lecture: 15	1	Pass with grade	F
Technics of managing of difficult emotions	Lecture: 15 Project exercises: 15	2	Pass with grade	F
Sum	**405**	**30**		

Semester 6

Subject	Number of hours	ECTS points	Form of verification	
Bee diseases	Lecture: 15 Laboratory exercises: 8 Field exercises: 7	2	Pass with grade	O
Clinical and laboratory diagnostics (2)	Lecture: 30 Laboratory exercises: 30	3	Exam	O
General surgery and anesthesiology	Lecture: 15 Ćwiczenia kliniczne: 30	3	Pass with grade	O

Subject	Number of hours	ECTS points	Form of verification	
Meat hygiene (1)	Lecture: 15 Laboratory exercises: 12 Field exercises: 18	3	Pass with grade	O
Pathomorphology (2)	Lecture: 30 Laboratory exercises: 45	8	Pass with grade	O
Response to public health related disasters	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	O
Veterinary pharmacology (2)	Lecture: 15 Laboratory exercises: 45	4	Exam	O
Veterinary pharmacy	Lecture: 15	1	Pass with grade	O
Electives sem 6	Contact hours: 45	4	Pass with grade	G
Open catalog, minimum choice of 4 ECTS				
Advances in biomedical sciences - joint course	Auditorium exercises: 15	2	Pass with grade	F
Experimental immunology	Lecture: 6 Laboratory exercises: 3 Ćwiczenia seminaryjne: 6	1	Pass with grade	F
Veterinary gerontology	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	F
Primary cell cultures in veterinary research	Laboratory exercises: 15	1	Pass with grade	F
Sum	**405**	**30**		

Semester 7

Subject	Number of hours	ECTS points	Form of verification	
Diagnostic imaging of large animals	Lecture: 10 Clinical classes: 20	2	Pass with grade	O
Diagnostic imaging of small animals	Lecture: 15 Clinical classes: 45	3	Pass with grade	O
Feed hygiene	Lecture: 20 Field exercises: 10	2	Pass with grade	O
Meat Hygiene (2)	Lecture: 15 Laboratory exercises: 45	3	Exam	O
Pathomorphology (3)	Lecture: 30 Laboratory exercises: 30	8	Exam	O
Electives sem 7	Contact hours: 30	3	Pass with grade	G
Open catalog, minimum choice of 3 ECTS				
Feed insect diseases	Lecture: 15 Laboratory exercises: 12 Field exercises: 3	2	Pass with grade	F
Geriatric care of companion animals	Lecture: 15 Ćwiczenia seminaryjne: 15	2	Pass with grade	F

Subject	Number of hours	ECTS points	Form of verification	
Radiographic anatomy of dog and cat	Lecture: 15	1	Pass with grade	F
Planning and monitoring of clinical tests	Lecture: 15	1	Pass with grade	F
Management of laboratory animal facility	Lecture: 15	1	Pass with grade	F
Farm animal diseases - infectious diseases	Lecture: 30 Ćwiczenia seminaryjne: 45	4	Exam	O
Farm animal diseases - internal diseases	Lecture: 30 Field exercises: 30 Ćwiczenia kliniczne: 15	5	Exam	O
Farm animal diseases - reproduction	Lecture: 30 Field exercises: 9 Ćwiczenia kliniczne: 36	4	Exam	O
Farm animal diseases - surgery	Lecture: 15 Field exercises: 9 Ćwiczenia kliniczne: 6	2	Exam	O
Sum	**525**	**36**		

Semester 8

Subject	Number of hours	ECTS points	Form of verification	
Advanced imaging techniques	Lecture: 8 Ćwiczenia kliniczne: 22	2	Pass with grade	O
Andrology and artificial insemination	Lecture: 15 Clinical classes: 19 Field exercises: 6	3	Pass with grade	O
Ethical aspects of veterinary practice	Lecture: 15	1	Pass with grade	O
Fish diseases	Lecture: 15 Laboratory exercises: 10	1	Pass with grade	O
Safety of food of animal origin (1)	Lecture: 30 Laboratory exercises: 26 Field exercises: 6 Ćwiczenia seminaryjne: 13	4	Pass with grade	O
Summer practice_Clinical practice (1)	Apprenticeships: 160	6	Exam	O
Toxicology	Lecture: 30 Laboratory exercises: 30	3	Exam	O
Veterinary jurisprudence	Lecture: 15 Laboratory exercises: 10 Ćwiczenia seminaryjne: 5	2	Pass with grade	O

Subject	Number of hours	ECTS points	Form of verification	
Zoonoses	Lecture: 15	1	Pass with grade	O
Equine diseases - infectious diseases	Lecture: 15 Ćwiczenia seminaryjne: 15	2	Exam	O
Equine diseases - internal diseases	Lecture: 15 Field exercises: 20 Ćwiczenia kliniczne: 10	3	Exam	O
Equine diseases - reproduction	Lecture: 15 Field exercises: 30	3	Exam	O
Equine diseases - surgery	Lecture: 15 Ćwiczenia kliniczne: 45	4	Exam	O
Electives sem 8	Contact hours: 65	3	Pass with grade	F
Clinical haematology	Lecture: 5 Laboratory exercises: 10	1	Pass with grade	F
Clinical immunology	Ćwiczenia seminaryjne: 15	1	Pass with grade	F
Food safety management	Lecture: 15 Project exercises: 9 Field exercises: 6	2	Pass with grade	F
Clinical virology	Laboratory exercises: 15	1	Pass with grade	F
Summer practice in Veterinary Inspection - slaughterhouse	Apprenticeships: 80	3	Exam	O
Sum	**775**	**41**		

Semester 9

Subject	Number of hours	ECTS points	Form of verification	
Administration and legal aspects in veterinary	Lecture: 15 Laboratory exercises: 15 Ćwiczenia seminaryjne: 15	3	Exam	O
Avian diseases	Lecture: 45 Laboratory exercises: 45	6	Exam	O
Dietetics	Lecture: 15 Laboratory exercises: 15	2	Exam	O
Dog and cat diseases - infectious diseases	Lecture: 15 Auditorium exercises: 20	2	Exam	O

Subject	Number of hours	ECTS points	Form of verification	
Dog and cat diseases - internal diseases	Lecture: 30 Laboratory exercises: 70	5	Exam	O
Dog and cat diseases - reproduction	Lecture: 15 Laboratory exercises: 35	3	Exam	O
Dog and cat diseases - surgery	Lecture: 15 Ćwiczenia kliniczne: 55	4	Exam	O
Electives sem 9	Contact hours: 45	4	Pass with grade	G
Open catalog, choice of 4 ECTS				
Anaesthesia and pain management in veterinary procedures	Lecture: 15	1	Pass with grade	F
Clinical toxicology of large animals	Lecture: 15	1	Pass with grade	F
Clinical toxicology of small animals	Lecture: 15	1	Pass with grade	F
Reptile and amphibian dietetics	Lecture: 15	1	Pass with grade	F
Seafood quality and safety management	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	F
Veterinary at the border control	Lecture: 6 Laboratory exercises: 6 Field exercises: 3	1	Pass with grade	F
Fur animals diseases	Lecture: 10 Laboratory exercises: 9 Field exercises: 6	1	Pass with grade	O
Safety of food of animal origin (2)	Lecture: 15 Laboratory exercises: 27 Field exercises: 3	4	Exam	O
Sum	**535**	**34**		

Semester 10

Subject	Number of hours	ECTS points	Form of verification	
Electives sem 10	Contact hours: 75	5	Pass with grade	G
Open catalog, minimum choice of 5 ECTS				
Applied pharmacology of farm animals	Lecture: 15	1	Pass with grade	F
Behavioural medicine of cats and dogs	Lecture: 30	2	Pass with grade	F
Behavioural medicine of horses	Laboratory exercises: 15	1	Pass with grade	F

Subject	Number of hours	ECTS points	Form of verification	
Breed-related disorders	Lecture: 15	1	Pass with grade	F
Case studies in small and exotic animals anaesthesia and anaelgesia	Ćwiczenia seminaryjne: 15	1	Pass with grade	F
Clinical anaesthesiology	Laboratory exercises: 15	1	Pass with grade	F
Clinical and laboratory diagnostics in emergency veterinary medicine	Laboratory exercises: 15	1	Pass with grade	F
Differential diagnostics based on laboratory results	Lecture: 15	1	Pass with grade	F
Equine emergency and field practice	Lecture: 15 Clinical classes: 15	2	Pass with grade	F
From symptoms to diagnosis - skin	Laboratory exercises: 15	1	Pass with grade	F
Herd health management in small ruminants	Lecture: 5 Laboratory exercises: 10 Ćwiczenia seminaryjne: 15	1	Pass with grade	F
Hoof management in cattle	Laboratory exercises: 5 Field exercises: 10	1	Pass with grade	F
Nutraceuticals in farm animals	Lecture: 15	1	Pass with grade	F
Veterinary of pig herd	Lecture: 2 Field exercises: 13	1	Pass with grade	F
Milk hygiene	Lecture: 15 Laboratory exercises: 15	2	Pass with grade	O
Rotation - Avian diseases	Clinical practice: 40	2	Pass with grade	O
Rotation - Dog and cat diseases	Clinical practice: 120	6	Pass with grade	O
Rotation - Equine diseases	Clinical practice: 90	6	Pass with grade	O
Rotation - Farm animal diseases	Clinical practice: 120	6	Pass with grade	O
Rotation - Laboratory class of parasitology	Clinical practice: 15	1	Pass with grade	O
Summer practice_Clinical practice (2)	Apprenticeships: 160	6	Exam	O
Summer practice_Veterinary inspection (2) - processing plant	Apprenticeships: 80	3	Exam	O
Veterinary prevention	Lecture: 30 Laboratory exercises: 18 Field exercises: 27	4	Exam	O
Sum	**805**	**41**		

Semester 11

In the semester there is the possibility of the course Individual research project. Objective of this module is to give students of veterinary medicine interested in the field of science and research a possibility to conduct scientific research ending in publication and defence of the Honours thesis, formally required by various universities for the PhD studies. The number of ECTS points obtained during this module (20) is not included to total number of ECTS points required.

Subject	Number of hours	ECTS points	Form of verification	
Herd health management	Lecture: 15 Laboratory exercises: 15 Field exercises: 12 Ćwiczenia kliniczne: 18	3	Exam	O
Rotation - Veterinary laboratory diagnostics	Laboratory exercises: 15	1	Pass with grade	O
Electives sem 11	Contact hours: 165	11	Pass with grade	G
Open catalog, choice of 11 ECTS				
Applied pharmacology of companion animals	Lecture: 15	1	Pass with grade	F
Cardiology diagnostics in small animals	Laboratory exercises: 3 Ćwiczenia seminaryjne: 12	1	Pass with grade	F
Clinical course of exotic animal diseases (ZOO)	Lecture: 9 Field exercises: 21	2	Pass with grade	F
Clinical course of small animal surgery	Laboratory exercises: 15	1	Pass with grade	F
Clinical pediatrics of dogs and cats	Lecture: 10 Laboratory exercises: 15	1	Pass with grade	F
Daily clinical practice	Laboratory exercises: 15	1	Pass with grade	F
Equine diseases clinical cases	Laboratory exercises: 8 Field exercises: 7	1	Pass with grade	F
Exotic animals medicine	Lecture: 24 Laboratory exercises: 6	2	Pass with grade	F
Horse dentistry	Lecture: 9 Laboratory exercises: 5 Ćwiczenia seminaryjne: 1	1	Pass with grade	F
Intensive care of dogs and cats	Laboratory exercises: 15	1	Pass with grade	F

Subject	Number of hours	ECTS points	Form of verification
Introduction to cynology and dog show essentials	Lecture: 12 Laboratory exercises: 2 Ćwiczenia seminaryjne: 1	1	Pass with grade F
Management of life-threatening situations in small animal anaesthesia	Laboratory exercises: 15	1	Pass with grade F
Management of veterinary practice	Lecture: 7 Laboratory exercises: 8	1	Pass with grade F
Mastitis prevention and treatment in dairy herds	Lecture: 5 Field exercises: 25	2	Pass with grade F
Neonatology of dogs and cats	Lecture: 15 Laboratory exercises: 15	2	Pass with grade F
Small animal bone and joint surgery	Laboratory exercises: 30	2	Pass with grade F
Small animal dermatology	Lecture: 6 Laboratory exercises: 9	1	Pass with grade F
Surgery of genital organs of dogs and cats (solo castration)	Laboratory exercises: 20	1	Pass with grade F
Ultrasound diagnostics in companion animals	Laboratory exercises: 15	1	Pass with grade F
Ultrasound diagnostics of the reproductive tract in farm animals	Lecture: 4 Laboratory exercises: 6 Field exercises: 20	2	Pass with grade F
Veterinary oncology	Ćwiczenia seminaryjne: 15	1	Pass with grade F
Welfare and rehabilitation of horses	Laboratory exercises: 15	1	Pass with grade F
Veterinary otology	Lecture: 6 Laboratory exercises: 9	1	Pass with grade F
Equine geriatrics and chronic diseases	Lecture: 10 Clinical classes: 20	2	Pass with grade F
Endocrinology of companion animals	Lecture: 15, w tym zajęcia zdalne: • Wykład synchroniczny: 15 Laboratory exercises: 15, w tym zajęcia zdalne: • Ćwiczenia laboratoryjne synchroniczne: 15	2	Pass with grade F
From symptom to diagnosis	Laboratory exercises: 15	1	Pass with grade F
Sum	**240**	**15**	

O - Obligatory subjects
G - Mandatory group
F - Elective subjects

Description of the learning outcomes assigned to the subjects and the curriculum content ensuring the achievement of these outcomes

Subject name:		Animal anatomy (1)	ECTS: 8
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	body parts and body regions in domestic animals, understands and knows principles of the spatial and directional anatomical terminology	A.W1, A.W2, A.W3
	W2	the structure, classification and functions of bones, understands the organisation of the mammal's skeleton	A.W1, A.W2, A.W3
	W3	the morphology and classification of joints and muscles, understands their functional significance in the animal's body	A.W1, A.W2, A.W3
	W4	the morphological principles of blood and lymph circulation, knows the detailed structure of the heart and the topography of the main arteries and veins in various animal species	A.W1, A.W2
	W5	familiar with correct English and Latin anatomical terminology referring to the locomotor apparatus and the cardiovascular system	A.W20
Skills: (In terms of skills, the graduate can)	U1	correctly determines body parts, regions, axes, planes and directions	A.U12, A.U15, A.U21, A.U6
	U2	recognizes bones and bone structures of various animal species based on their morphological characteristics	A.U12, A.U15, A.U21, A.U6
	U3	correctly recognizes and describes the types of joints, determine the location and role of ligaments; understands the relationship between muscle position, attachment and function, correctly recognizes skeletal muscles on the cadaver	A.U12, A.U15, A.U21, A.U6
	U4	correctly identifies the morphological structures of the heart, recognizes the main arteries and veins	A.U12, A.U15, A.U21, A.U6
	U5	recognizes species affiliation of hematopoietic organs	A.U12, A.U15, A.U21, A.U6
	U6	correctly uses both English and Latin anatomical terminology in reference to the locomotor apparatus and the cardiovascular system	A.U12, A.U15, A.U21, A.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	further expand his morphological knowledge	KS.4, KS.6, KS.8
	K2	aware of the interdisciplinary importance of morphological knowledge in the in the future study of clinical disciplines	KS.4, KS.6, KS.8
	K3	critical analysis already possessed and to seek sources for its extension, including by consulting the opinion of other veterinarians and specialists	KS.4, KS.6, KS.8, KS.9
	K4	use scientific literature and its critical evaluation	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:		The normal gross morphology of domestic animals; the Latin and English anatomical terminology; comparative morphological analysis.	
Examination methods:		Test (written or computer based)	

Subject name:		Biology	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	The morphology of animal organism anatomic systems and principles of development of that systems, Students understand evolution processes. Students generally characterize medicinal plants and medicines of the plant’s origin	A.W1, A.W14, A.W2, A.W3, A.W4
Skills: (In terms of skills, the graduate can)	U1	describe morphology of animal organism systems and principles of development of that systems; recognize medicines of the plant’s origin	A.U1, A.U13, A.U21, A.U23
Social competences: (Within the scope of competence, the graduate is ready to)	K1	continuously improve his/her knowledge, to make responsible and ethical decisions	KS.1, KS.4, KS.8
Course content ensuring the achievement of learning outcomes:		The normal gross morphology of domestic animals; the Latin and English anatomical terminology. Comparative morphological analysis.	
Examination methods:		Test (written or computer based)	

Subject name:		Biophysic	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Physical laws governing structure, function and behaviour of the living organism	A.W4, A.W7, A.W8
	W2	Basic physical principles behind measurement and imaging techniques in biology, veterinary and medicine	B.W4
Skills: (In terms of skills, the graduate can)	U1	Utilises knowledge acquired during the biophysics course to explain influence of physical factors on living organism.	A.U1
	U2	utilises knowledge acquired during the biophysics course to evaluate risks for himself and the patient associated with the use of advanced imaging techniques.	B.U7
	U3	Utilises knowledge acquired during the biophysics course to understand aspects of future learning.	A.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Utilises objective scientific information sources to further enhance his knowledge.	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:		During the course, the student acquires basic and latest information in the field of biophysics: description of the physical world, membrane transfer and potential, principles governing the interaction of living organisms with the material world, principles of thermodynamics and energy transfer in living organisms, basics of subatomic interactions, knowledge about physical principles utilised in diagnostics in veterinary and medicine. Lectures cover an introduction to biophysics, a description of basic units and scientific method in the experiment; the function of the cell membrane and physical processes governing membrane transport, protein folding and activity; basics of bioelectricity and electrical measurements in veterinary and medicine; applicability of Newtonian physics to the living organism; elasticity; basics of fluidics, thermodynamics and energy transfer through the living organism; electromagnetic radiation in the living world, measurement of the electromagnetic radiation; basics of acoustics and acoustic-based imaging technics; basics of radiation, radiobiology and x-ray imaging techniques; bio-magnetism and related medical imaging; selected topics from current physics.	
Examination methods:		Written exam	

Subject name:		Cell Biology	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the structural and ultrastructural of cells and tissues of the animal body and their diversity depending on their function	A.W1, A.W2
	W2	the relationship between cells and their functions	A.W1, A.W2
	W3	the cell cycle, cell life and death	A.W1, A.W2
	W4	the terminology in the field of cell biology	A.W1
Skills: (In terms of skills, the graduate can)	U1	excellent handling of microscopic equipment	A.U13, A.U8
	U2	recognize histological structures on slides	A.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	combine theoretical and practical knowledge	KS.4, KS.9
	K2	use their knowledge and skills in further stages of education	KS.5, KS.8
Course content ensuring the achievement of learning outcomes:		Structures of animal cells, tissues, and their components. Correlation between cells in the different tissues. The course develops and enhances skills in the operation of a microscope and the interpretation of microscopic images.	
Examination methods:		Written exam, Test (written or computer based)	

Subject name:		Chemistry	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	The structure of matter (atoms, elements, isotopes, bonds creating molecules and compounds).	A.W4
	W2	The main chemical processes: solubility, electrolytical dissociation, osmosis, dialysis.	A.W5, A.W6, A.W7
	W3	The properties of solutions and colloids.	A.W5
	W4	The meaning of ion product of water, pH.	A.W11, A.W5, A.W6
	W5	Properties of buffers and their role in living organisms.	A.W11, A.W5, A.W6
	W6	The structure and properties of organic and inorganic compounds.	A.W6
	W7	The differences in properties of isomers of organic compounds.	A.W4
Skills: (In terms of skills, the graduate can)	U1	calculate molar and percentage concentration, calculate the amount of solute in a solution.	A.U3
	U2	calculate the pH of weak and strong acids/bases, pH of buffers, buffer capacity.	A.U3, A.U4
	U3	identify ions in solutions based on characteristic reactions.	A.U2
	U4	predict the movement of ions and water through a semipermeable membrane in biological systems.	A.U1, A.U3, A.U4
	U5	use laboratory equipment, perform qualitative and quantitative analysis of investigated compounds (also in biological material).	A.U2
Social competences: (Within the scope of competence, the graduate is ready to)	K1	ready to interpret results of qualitative and quantitative chemical analyses.	KS.5
	K2	use learned analytical skills in further steps of education, especially in the context of veterinary diagnostics.	KS.5, KS.7
	K3	ready to share his/her knowledge and practical skills with other team members.	KS.9
	K4	use his/her knowledge about chemical processes and laboratory skills in further steps of veterinary education.	KS.4, KS.8
	K5	critical to his/her knowledge and understands the necessity of constant upgrading this knowledge using the most up to date data and publications.	KS.4
Course content ensuring the achievement of learning outcomes:		The chemistry course aims to teach students about the structure of matter (atomic structure, types of chemical bonds), present topics of general chemistry (e.g. pH, buffers) and introduce students to organic chemistry by presenting the structure and characteristics of organic compounds. During the practical part of the course, students are shown the main methods and techniques used in analytical chemistry. Students learn how to work in the laboratory and function in teams. The knowledge about atoms, bonds in elements and compounds, interactions between chemical compounds and kinetics of chemical reactions is necessary for a proper understanding of more advanced mechanisms presented during future biochemistry, pharmacology, toxicology, animal physiology, and diagnostics courses.	
Examination methods:		Written exam, Written credit, Assessment of work in the laboratory	

Subject name:		Copyrights in academia	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basic concepts and principles of intellectual property protection, copyright and protection of personal rights.	C.W2
Skills: (In terms of skills, the graduate can)	U1	recognise the proper use of fundamental principles and rules of copyright and other legal norms concerning the protection of intellectual property and personal rights.	C.U2, C.U3
Social competences: (Within the scope of competence, the graduate is ready to)	K1	act within the scope of their legal knowledge and understand the necessity of continuous training and monitoring changes in the law.	KS.1, KS.2, KS.4
	K2	based on analysing new legal problems, the student formulates proposals for their solutions on his own.	KS.1, KS.2, KS.4
Course content ensuring the achievement of learning outcomes:		The basic principles of copyright and intellectual property law based on national (Polish) and EU legislation. Topics covered intellectual property, the legal basis for national and international protection, sources and concept of copyright, rights related to copyright licences, databases, industrial property, and consequences of copyright infringement.	
Examination methods:		Test (written or computer based)	

Subject name:		Calculus	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the principles of the arithmetic computations. figures and graphs.	A.W1, A.W10, A.W11, A.W12, A.W13, A.W14, A.W15, A.W16, A.W17, A.W18, A.W19, A.W2, A.W20, A.W21, A.W22, A.W23, A.W3, A.W4, A.W5, A.W6, A.W7, A.W8, A.W9
Skills: (In terms of skills, the graduate can)	U1	calculate dose of drugs. recalculate different units to other units of drugs/chemicals, metabolites etc. properly calculate/prepare a final solution/diet from provided chemicals/materials.	A.U3
Social competences: (Within the scope of competence, the graduate is ready to)	K1	ordain proper amount of any drug, nutrient etc., recalculate units o and prepare	KS.1
Course content ensuring the achievement of learning outcomes:		The basic mathematical skills required for any topic where calculations have to be used, for example: biochemistry, chemistry, animal physiology, animal nutrition, pharmacology, toxicology, clinics of small animals, clinics of large animals.	
Examination methods:		Written credit, Assessment of activity during classes	

Subject name:		Intercultural communication	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Social competences: (Within the scope of competence, the graduate is ready to)	K1	resolve cross-cultural conflicts, is able to recognize different forms of stereotyping and discrimination and tries to avid them	KS.3
	K2	communicate with people with different cultural and social background	KS.2
	K3	recognizes principles of student ethics as well as rules of formal and informal communication at University	KS.2
Course content ensuring the achievement of learning outcomes:		Realization of the objectives of the course assumes sharing necessary knowledge in the field of intercultural communication, such as the essence of intercultural communication; communication barriers; the importance of active listening; stereotypes and discrimination, which will constitute the basis for developing the skills of its practical use and connected social competences. During the course, students will learn about cultural differences, allowing them to develop competencies related to adapting communication to a specific cultural context. The ethical aspects will be discussed, including the code of ethics, students regulation, rights and responsibilities	
Examination methods:		Written credit, Case, Presentation, Assessment of activity during classes	

Subject name:		Introductory Polish	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the rules of Polish pronunciation, accent and intonation.	A.W20
	W2	the conjugation of basic verbs in the present tense.	A.W20
	W3	the basic vocabulary and grammar rules for constructing questions and answers in Polish.	A.W20
Skills: (In terms of skills, the graduate can)	U1	correctly pronounce Polish, accentuate and use appropriate intonation.	A.U12, A.U13
	U2	ask basic questions, both informal and formal, and provide answers.	A.U12, A.U13
	U3	use basic formal and informal communication phrases.	A.U12, A.U13
	U4	tell basic information about himself, e.g. name, surname, language, e-mail address, telephone number, place of work, etc. and understands what other people are saying	A.U12, A.U13
Social competences: (Within the scope of competence, the graduate is ready to)	K1	communicate properly in Polish at a basic level and to use informal and formal language depending on the situation.	KS.9
	K2	apply strategies enabling the implementation of tasks in the event of incomplete understanding of the language, using the non-language context as well as hisown general knowledge.	KS.10, KS.9
Course content ensuring the achievement of learning outcomes:		Self introduction; welcome and farewell formulas; polish alphabet; vocabulary related to: communication, countries and nationalities, place of residence, address and telephone number, studies, work and numbers.	
Examination methods:		Written credit, Oral credit, Assessment of activity during classes	

Subject name:		Successful learning	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	implement successful learning in veterinary practice as an element of economic processes of animal production and pets keeping.	A.W22
Skills: (In terms of skills, the graduate can)	U1	manage personal successful learning strategy.	A.U18
Social competences: (Within the scope of competence, the graduate is ready to)	K1	critically evaluate personal actions and actions of others to improve professional conduct.	KS.6
Course content ensuring the achievement of learning outcomes:		Knowledge in the field of successful learning systems with professional skills in developing continuous personal learning processes as well as critical evaluation of personal actions and actions of others.	
Examination methods:		Case	

Subject name:		Histology and embroylogy (1)	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the histological structure of organs and systems (vascular, nervous, lymphatic, endocrine, integumentary, respiratory) and their diversity depending on their function and the species of animal	A.W1, A.W2
	W2	the relationship between organs and systems and their functions	A.W1, A.W2
	W3	the terminology in the field of histology	A.W1, A.W2
Skills: (In terms of skills, the graduate can)	U1	excellent handling of microscopic equipment	A.U13, A.U8
	U2	logically and creatively present histological issues in the aspect of organs and systems	A.U13, A.U8
	U3	assign microscopic images to individual tissues, organs and histological systems	A.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	combine theoretical and practical knowledge	KS.4, KS.9
	K2	apply their knowledge and skills in studying preclinical and clinical subjects	KS.5, KS.8
	K3	continuing education and is ready to regularly use the deepening of knowledge, using scientific sources	KS.4
Course content ensuring the achievement of learning outcomes:		The structures of animal tissues and organs, their components and functions, and the correlation between tissues in the different organs. The course develops and enhances skills in the operation of a microscope and the interpretation of microscopic images.	
Examination methods:		Test (written or computer based)	

Subject name:		Information Technology	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	rules of proper text processing	C.W1
	W2	rules of formatting proper designing web pages	C.W2
Skills: (In terms of skills, the graduate can)	U1	format texts with graphics	C.U3
	U2	create Excel formulas	C.U4
	U3	develop a simple web site	C.U1
Social competences: (Within the scope of competence, the graduate is ready to)	K1	constantly update knowledge and skills	KS.1
	K2	communicate with others by means of formal documents or websites	KS.4
Course content ensuring the achievement of learning outcomes:		MS Word, essentials. Text formatting: fonts, bold, underline, italic, text effects. Paragraph formatting: indentation, space above/below, interline. Numbered lists, punctuations. Inserting and formatting pictures and charts. MS Excel, basic formulas, relative and absolute addresses. Built-in standard functions and advanced procedures. Charts and graphs. Building presentations with MS PowerPoint. Text formatting. Using graphics, charts, and graphs in presentation. Using templates. Basics of HTML. Text and paragraphs formatting, links. Inserting graphics. Communicating using Web pages and email.	
Examination methods:		Written credit, Assessment of speeches during classes	

Subject name:		Latin	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	latin conjugations, declensionsis and cases	A.W20
	W2	the meaning and structure of latin expressions or sentences	A.W20
Skills: (In terms of skills, the graduate can)	U1	pronounce, read, understand and translate latin text or expressions composed mainly of medical vocabulary with the use of a dictionary	A.U12
	U2	recognize latin declensions, conjugations, cases etc and to translate each case of latin noun and adjective	A.U12
Course content ensuring the achievement of learning outcomes:		Translation of medical texts; grammar and syntax of the Latin language.	
Examination methods:		Test (written or computer based)	

Subject name:		OHS training	ECTS: 0
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	principles for measuring and evaluating parameters of the material working environment and human activity; principles of shaping the work environment; basic methods, tools, and techniques for analysis/assessment of the work environment and human activity.	C.W3
Skills: (In terms of skills, the graduate can)	U1	solve simple tasks related to the appropriate ergonomic design of the human activity environment.	A.U18, A.U20, A.U23
Social competences: (Within the scope of competence, the graduate is ready to)	K1	work in a complex work environment including stressful conditions	KS.1, KS.10, KS.5
Course content ensuring the achievement of learning outcomes:		Psychosocial factors at work. Anthropometric and biomechanical factors. Physiological factors at work. Safety at work in the selected workstation.	
Examination methods:		Report	

Subject name:		Physical education	ECTS: 0
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how physical exercise affects the development and functioning of the body.	
	W2	the aspects of morphological, anatomical and physiological foundations of the functioning of the human body and the consequences and risks associated with lack of physical activity.	
	W3	how physical activity affects health at every stage of life.	
	W4	the relationship between effort and systematic work and the effect obtained.	
Skills: (In terms of skills, the graduate can)	U1	analyze the level of own physical fitness, correctly interpret and identify problems occurring during the performance of tasks and make the right decisions to solve them.	
	U2	prepare the body for the effort, control and assess the state of the body's efficiency, use the acquired movement habits in the correct performance of everyday motor activities.	
	U3	use various forms of physical activity taking into account the current state of health, physical capabilities and age.	
	U4	cooperate in a team with commitment and full responsibility in order to achieve a specific result.	
	U5	undertake tasks adequate to their own talents and abilities.	
Social competences: (Within the scope of competence, the graduate is ready to)	K1	control their own physical development at every stage, taking care of the body in health and illness.	
	K2	build social relationships and knows how to use it to achieve individual and team goals.	
	K3	take responsibility for the state of their own health and that of others, including their own family in the future.	
Course content ensuring the achievement of learning outcomes:		Familiarizing the student with safety rules in physical education classes. Provide the student with basic movements, movement and body function during the selected motor activity. Familiarizing the student with the rules and regulations in the selected sport discipline. Familiarizing the student with the organization and conduct of competitions as part of the selected physical activity.	
Examination methods:		Assessment of activity during classes	

Subject name:		Agronomy	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	current aims of agriculture and specific characters of plant production, definitions connected with agriculture, climatic and soil conditions for agriculture	B.W15, B.W9
	W2	describes systems of plant management and farming systems; the most important field plants for people and animals	B.W15, B.W21
Skills: (In terms of skills, the graduate can)	U1	use acquired knowledge in assessing the impact of plant production and agriculture systems on natural and food risks	B.U20, B.U22
Social competences: (Within the scope of competence, the graduate is ready to)	K1	continuous education for professional development	KS.8
	K2	take the responsibility for decisions taken, especially those that interfere with the natural environment and public health	KS.1
Course content ensuring the achievement of learning outcomes:		The agriculture and farming systems, agricultural land use in the world, factors of plant production and consequences of decisions, especially those influencing the natural environment.	
Examination methods:		Test (written or computer based)	

Subject name:		Animal anatomy (2)	ECTS: 8
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the detailed morphology of organs and anatomical structures of domestic animals	A.W1, A.W2
	W2	the general functions and morphological integration of organs and systems of domestic animals	A.W1, A.W2
	W3	English and Latin anatomical terminology	A.W20
Skills: (In terms of skills, the graduate can)	U1	recognize the morphological diversity of domestic animals	A.U6
	U2	describe the general functions and morphological integration of organs and systems	A.U6
	U3	recognize the interspecific anatomical differences	A.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	describe the morphological diversity of domestic species	KS.8
	K2	use acquired knowledge in further implementations of studies in the field of clinical subjects	KS.8
	K3	use morphological knowledge in the process of animal health assessment	KS.6, KS.9
Course content ensuring the achievement of learning outcomes:		Domestic animals' general gross morphology; Latin and English anatomical terminology; comparative morphological analysis. Students acquire the ability to describe and specifically differentiate organs/systems.	
Examination methods:		Written exam, Written credit	

Subject name:		Biochemistry (1)	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the role and properties of water that are necessary for the functioning of living organisms and knows and understands different types of adjustments of animal organisms to limit the loss of water.	A.W1, A.W2, A.W5
	W2	the structure and properties of the main types of biochemical compounds: carbohydrates, amino acids, proteins, lipids, porphyrins, nucleic acids and vitamins	A.W1, A.W6
	W3	the role of the main types of biochemical compounds: carbohydrates, amino acids, proteins, lipids, porphyrins, nucleic acids and vitamins in organism	A.W10, A.W11, A.W12, A.W2, A.W4
	W4	the specific functions of nucleic acids in terms of biochemical reactions involved in the processes of replication, transcription and translation	A.W11, A.W14, A.W6
	W5	the role of micro- and macroelements in physiological conditions of organism	A.W1, A.W2, A.W5
	W6	the consequences of deficiencies of micro/macroelements and vitamins in animals and humans	A.W10, A.W11, A.W12
Skills: (In terms of skills, the graduate can)	U1	identify specific groups of biochemical compounds based on characteristic reactions	A.U2, A.U4
	U2	use the main laboratory techniques, such as: qualitative analyses, titration, colorimetric measurements, chromatography	A.U2
	U3	identify the properties of specific biochemical compounds based on characteristic reactions	A.U2
	U4	perform qualitative and quantitative analyses of investigated compounds	A.U2
Social competences: (Within the scope of competence, the graduate is ready to)	K1	share his/her knowledge and practical skills with other team members	KS.9
	K2	interpret results obtained and make conclusions based on performed analyses or observations, and is able to explain the results in a clear and factual manner using arguments based on available scientific literature regarding veterinary sciences	KS.4, KS.5
	K3	critical to his/her knowledge and understands the necessity of constant upgrading this knowledge using the most up to date data and publications	KS.7, KS.8
	K4	use his/her knowledge and skills in further steps of education	KS.8
Course content ensuring the achievement of learning outcomes:		The structure and properties of biochemical compounds (vitamins, carbohydrates, lipids, amino acids, proteins, nucleic acids, porphyrins) and necessary macro- and microelements. During the practical part of the course, students perform qualitative and quantitative analyses to detect the presence and properties of the studied biochemical compounds.	
Examination methods:		Written credit, Assessment of work in the laboratory	

Subject name:		Biostatistics and methods of documentation	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basic concepts of descriptive statistics and probability theory	B.W6
	W2	the types and basics of parametric and nonparametric tests using	B.W6
	W3	the principles of making and testing statistical hypotheses using appropriate computer software	B.W6
Skills: (In terms of skills, the graduate can)	U1	use the methods of descriptive statistics to draw conclusions about data set	A.U15, A.U19, B.U20, B.U23, B.U6
	U2	calculate and interpret confidence intervals	A.U19, B.U6
	U3	formulate a statistical hypothesis and choose the appropriate method of testing	A.U19, B.U23, B.U9
	U4	use basic computer software for data analysis (Microsoft Excel)	A.U19, B.U20
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use Excel for data analysis	KS.5, KS.8
	K2	critically analyses the results obtained and is ready to draw conclusions from measurements and observations	KS.1, KS.11, KS.4, KS.5, KS.7, KS.8
Course content ensuring the achievement of learning outcomes:		The basic biostatistical concepts. Students learn how to choose statistical methods for medical data analysis and how to formulate and test hypotheses.	
Examination methods:		Written credit	

Subject name:		Environmental protection	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	basics of environmental protection concepts and the different types of anthropogenic pollutants	A.W10, A.W11
	W2	pollutants circulation in nature and their environmental effects, including their impact on organisms	A.W10, A.W11
	W3	the general principles of minimizing the impact of pollution on the environment	A.W11, A.W21, A.W6
	W4	the legal acts relating to the protection of environments applicable in Poland and the EU	A.W22
Skills: (In terms of skills, the graduate can)	U1	perform an ecotoxicity test and interpret its results	A.U15, A.U2, A.U23, A.U3
	U2	estimate the risks associated with biomagnification of substances in the food chain	A.U1, A.U15, A.U21, A.U4
	U3	use source texts and prepare a study in a multi-person team	A.U13, A.U15
	U4	identify the activities of doctor of veterinary medicine that contribute to environmental protection and conservation	A.U16
Social competences: (Within the scope of competence, the graduate is ready to)	K1	assess chemical hazards resulting from pollution present in the environment	KS.1, KS.2
	K2	use source texts and deepen the knowledge on the subject	KS.8
	K3	collaborate with others to protect public health from chemical hazards	KS.11
Course content ensuring the achievement of learning outcomes:		The fundamental issues related to environmental protection; the role of human activity in environmental degradation. The student learns the most critical environmental pollution, their impact on organisms and ecosystems, and a veterinarian's role in environmental protection.	
Examination methods:		Test (written or computer based), Presentation, Assessment of speeches during classes	

Subject name:		General and veterinary genetics	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the structure of cell genetic information carriers and molecular mechanisms of the basis of inheritance	A.W1, A.W2
	W2	the principles and processes of inheritance, recognizes genetic disorders and understands the mechanisms of the emergence and inheritance of genetic diseases, including cancer	A.W10, A.W14
	W3	the basic possibilities of genetic engineering	A.W14
	W4	the basics of population genetics	A.W14
Skills: (In terms of skills, the graduate can)	U1	use terminology in the field of genetics	A.U9
	U2	logically and creatively present genetic issues in the aspect of cell, organism and population	A.U7, A.U8
	U3	propose methods for the diagnosis of genetic diseases and is able to interpret the results obtained	A.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	the knowledge in the implementation of further study, especially in the field of clinical subjects	KS.1, KS.4, KS.8
	K2	communicate and cooperate with a genetic specialist in the diagnosis of genetic diseases	KS.11, KS.5, KS.9
	K3	critically assesses the scope of his knowledge and has the habit of constantly deepening his knowledge using objective sources of knowledge	KS.4, KS.7, KS.8
Course content ensuring the achievement of learning outcomes:		The structure of DNA and chromosomes, mechanisms of gene function, their mutations, genetic diseases, methods of genetic analysis, and population relationship in animal breeding.	
Examination methods:		Written credit, Assessment of activity during classes	

Subject name:		Histology and embroylogy (2)	ECTS: 5
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the histological structure of structures, organs and systems (alimentary, sense organs, integumentary, urinary, male and female reproductive) and their diversity depending on their function and the species of animal.	A.W1, A.W2
	W2	the relationship between organs and systems and their functions.	A.W1, A.W2
	W3	mammalian embryology and understands interspecies differences.	A.W1, A.W2, A.W3
	W4	terminology in the field of histology and embryology.	A.W1, A.W2
Skills: (In terms of skills, the graduate can)	U1	excellent handling of microscopic equipment	A.U13, A.U8
	U2	assign microscopic images to individual tissues, organs and histological and embryological systems	A.U8
	U3	logically and creatively present histological issues in the aspect of organs and systems	A.U13, A.U8
	U4	logically and creatively present embryological issues	A.U13, A.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	combine theoretical and practical knowledge	KS.4, KS.9
	K2	use knowledge and skills in studying preclinical and clinical subjects	KS.5, KS.8
	K3	continuing education and is ready to regularly use the deepening of knowledge, using scientific sources	KS.4
Course content ensuring the achievement of learning outcomes:		The animal tissues and organs' structures, components, and functions. Correlation between tissues in the different organs. The course develops and enhances skills in the operation of a microscope and the interpretation of microscopic images. The further field is an introduction to Animal Embryology, therein gametogenesis, fertilisation and the development of the embryo and foetal, implantation and placenta formation	
Examination methods:		Written exam, Test (written or computer based)	

Subject name:		History of veterinary and deontology	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	English and Latin medical and veterinary nomenclature	A.W20
	W2	code of ethics of veterinary surgeon and basic deontological issues	A.W22
Skills: (In terms of skills, the graduate can)	U1	listen and answer in understandable language appropriate for the situation	A.U13
	U2	how to properly evaluate the responsibility of the veterinary surgeon in relation to animals and the environment;	A.U16
	U3	how to understand the necessity of continuous education and professional development;	A.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	comply with the principles of veterinary ethics and deontology and tolerant of other people;;	KS.2
	K2	express opinions on various aspects of professional activity;	KS.6
	K3	deepen knowledge and improve professional skills;	KS.8
	K4	work in professional and territorial or local organisations.	KS.12
Course content ensuring the achievement of learning outcomes:		Veterinary history, its development and achievements from antiquity until today.	
Examination methods:		Essay	

Subject name:		Polish language (1)	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	grammar and syntax of the Polish language, everyday vocabulary of the polish language	C.W1
Skills: (In terms of skills, the graduate can)	U1	communicate in the store, order dishes in the restaurant, ask for directions and give the simple directions, describe the locations of the objects, talk about family, present the plan of the day, ask for someone's plans, ask for and tell the time	C.U1
Social competences: (Within the scope of competence, the graduate is ready to)	K1	create natural communication situations and break the language barrier	KS.9
Course content ensuring the achievement of learning outcomes:		The names of food products, communication in the store, phrases and expressions in the restaurant; words of public facilities, asking for directions, giving simple rules, specifying the location of objects; vocabulary related to family relationships; presentation of the family, information about its members; fundamental phrases, verbs in the present tense, prepositions, also, the days of the week; day schedule; asking for and telling time.	
Examination methods:		Written credit, Oral credit	

Subject name:		Aquaculture and exotic animals care	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	species of common exotic animals and their needs	B.W11
	W2	rules of aquarium fish keeping	B.W11
	W3	code of ethics of veterinary surgeon in the field of exotic animals care	A.W22
	W4	idea of animals' welfare	B.W9
	W5	current legislation covering aspects of trade & keeping of exotic animals & fishes	B.W7
Skills: (In terms of skills, the graduate can)	U1	logically analyse needs of exotic animals/aquarium fishes	B.U20
	U2	analyse the condition of animal & conditions of its keeping	A.U7
	U3	correctly analyse unbiased sources of knowledge about exotic animals/aquarium fishes	B.U20, B.U21
	U4	logically correlated keeping conditions with animal' welfare	A.U19
	U5	interpret responsibility of veterinary surgeon towards exotic animals	A.U16
Social competences: (Within the scope of competence, the graduate is ready to)	K1	cooperate with breeders and specialists in other fields dealing with exotic animals/aquaculture	KS.8, KS.9
	K2	search for current unbiased sources of knowledge and lifelong learning	KS.4, KS.8
	K3	critical evaluation of knowledge in the field of exotic animals/aquaculture	KS.5, KS.7
	K4	share own knowledge on the subject of exotic animals care/aquaculture and using the knowledge of others	KS.9
	K5	show responsibility for decisions taken – animals welfare	KS.1
Course content ensuring the achievement of learning outcomes:		Requirements of exotic animals and decorative fishes in captivity. Rules of proper maintenance conditions	
Examination methods:		Written credit	

Subject name:		Breeds and varieties of dogs and cats	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	dogs/cats breeds	B.W11
	W2	cynological/felinological organisations	B.W11
	W3	knows and understands code of ethics of veterinary surgeon in the field of fit dogs/cats breeds	A.W22
	W4	the concept “fit for function”	B.W9
	W5	dogs/cats breeds	B.W11
Skills: (In terms of skills, the graduate can)	U1	correctly analyse unbiased sources of knowledge about dogs/cats breeds	A.U19, A.U9
	U2	analyse breed standard	A.U9
	U3	analyse needs of dogs/cats breeds	A.U19
	U4	evaluate phenotypes of dogs/cats	A.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	cooperate with breeders and specialists in other fields dealing with dogs/cats	KS.8, KS.9
	K2	search for current unbiased sources of knowledge and lifelong learning	KS.4, KS.8
	K3	critical evaluation of knowledge in the field of dogs/cats breeds	KS.5, KS.7
	K4	share own knowledge on the subject of dogs/cats breeds and using the knowledge of others	KS.9
	K5	show responsibility for decisions taken – animals' welfare	KS.1
Course content ensuring the achievement of learning outcomes:		During the course, students are receiving information about the fundaments of cynology and felinology, which includes: dogs breeds (FCI), phenotypes and utility. As well as cat breeds and varieties (FIFe, TICA, WFC). The students would learn how to evaluate breed type and how to advise breeders and future owners. The acquired knowledge will be useful both in the further years of education (clinical subjects - diseases of dogs and cats) as well as in professional practice (advising breeders, cooperation with associations, behaviourists, etc.). Lectures: 1. Breed groups (FCI) and their utility. Breeds and varieties of cats (FIFe, TICA). Hybrids. Genetic tests related to breeds.	
Examination methods:		Written credit	

Subject name:		Successful learning (2)	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how to implement successful learning in veterinary practice as an element of economic processes of animal production and pets keeping	A.W22
Skills: (In terms of skills, the graduate can)	U1	to manage personal successful learning strategy .	A.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to critically evaluate personal actions and actions of others to improve professional conduct .	KS.8
Course content ensuring the achievement of learning outcomes:		The course provides knowledge in the field of successful learning system. The course develops and enhances practical professional skills of planning, implementing through different techniques and methods, with the use of the ICT tools as well as evaluating and developing continuous personal learning processes. During the course student develops personal competences in the fields of individual actions and cooperation in learning processes as well as will be able to critically evaluate personal actions and actions of others to improve proposed solutions. Detailed issues: 1. Communication strategies in the university environment. 2. Active listening during and out of the class 3. Effective note taking in different learning environments. 4. Time management strategies. 5. Learning stress maintenance. 6. Enhancement of the learning system.	
Examination methods:		Report, Assessment of activity during classes	

Subject name:		Animal husbandry and breeding	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	1. basic breeds of the farm animals, 2. acquires the moulding of different breeds in the past and nowadays, 3. the different selection and culling rules, 4. a risk of improper selection, 5. the necessity of protection of primitive local breeds as the gene pool.	B.W11, B.W12
Skills: (In terms of skills, the graduate can)	U1	1. recognize and describe basic breeds of farm animals, 2. suggest the traits for which animals should be selected and culled.	B.U5
Social competences: (Within the scope of competence, the graduate is ready to)	K1	1. advise farmer how to improve his herd/flock, 2. ordain information on proper animal breeding	KS.4, KS.5, KS.9
Course content ensuring the achievement of learning outcomes:		During the course, students will be familiar with basic breeds of species and certain breeds of minor species, the rules of selection and changes in the breeding within the particular breeds. Nowadays husbandry and the production of commercial animals for fattening.	
Examination methods:		Written exam, Oral exam, Oral credit	

Subject name:		Animal physiology (1)	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the functioning of individual cellular structures / systems / organs such as: the nervous system, CNS, ANS, skeletal muscles, cardiac muscle, cardiovascular system, sense organs, respiratory system.	A.W1, A.W10, A.W2, A.W4, A.W8, A.W9
	W2	the physiological fundamentals / mechanisms of sensation and perception, movement and maintenance of body posture, physiological fundamentals of behaviour, endocrinology (hypothalamic-pituitary axis, peripheral endocrine glands and tissue hormones), regulation of blood flow in vessels, gas exchange.	A.W2
	W3	the functional connections between the organs / tissues.	A.W2, A.W4
	W4	the methods of examining parameters determining the physiological state of the body such as: the nervous system (chronaxie, rheobase, conduction speed); skeletal muscle mechanics; physiological parameters of the cardiovascular system (stroke volume, minute volume, etc., blood pressure); respiratory system (air volumes).	A.W11, A.W4, A.W5
	W5	the mechanisms integrating the functioning of the whole organism and maintaining the body's homeostasis (CNS, AUN, transmitters, co-transmitters, neuromodulators in the nervous system, hormones, Eicosanoids, cytokines, growth factors, circulatory system).	A.W11, A.W4, A.W5, A.W9
	W6	the disturbances in the functioning of the organs as examples of malfunctioning of the body.	A.W11
	W7	the concepts of intellectual property protection.	A.W23
Skills: (In terms of skills, the graduate can)	U1	explain the physiological mechanisms / molecular mechanisms of cellular structures / organs / systems such as: the nervous system, CNS, AUN, skeletal muscles, heart muscle, cardiovascular system, sense organs, respiratory system.	A.U8
	U2	assess and interpret the functioning of the body / systems / organs / cells in the context of the activities of the nervous system, CNS, CNS, skeletal muscle, cardiac muscle, cardiovascular system, sense organs, respiratory system, endocrine system, their interaction and ensuring homeostasis of the body.	A.U7, A.U8
	U3	indicate how the discussed tissues / organs / systems can affect each other and what are the consequences for the functioning of the body.	A.U8
	U4	indicate the parameters describing the physiological state of the organs / systems in question - can define the physiological (health) state of the body.	A.U4, A.U7
	U5	plan and carry out a simple experiment allowing the analysis of physiological parameters.	A.U13, A.U14, A.U15, A.U23
Social competences: (Within the scope of competence, the graduate is ready to)	K1	assess and interpret the functioning of the body / systems / organs / cells in the context of the activities of the nervous system, CNS, CNS, skeletal muscle, cardiac muscle, cardiovascular system, sense organs, respiratory system, endocrine system, their interaction and ensuring homeostasis of the body.	KS.1, KS.4, KS.5, KS.6, KS.7
	K2	assess the physiological parameters determining the animal's health in veterinary diagnostics and treatment of diseases.	KS.1, KS.4
	K3	perform basic physiological (scientific) experiments and to draw correct conclusions from the observations made.	KS.5

	K4	critical of his knowledge and constantly updates it in accordance with the latest state of general knowledge, uses scientific sources to expand his knowledge.	KS.4, KS.7, KS.8, KS.9
	K5	cooperate - consult other people and share the knowledge with others.	KS.3, KS.4, KS.7, KS.9
	K6	apply his knowledge and skills in further stages of education.	KS.1, KS.4, KS.5, KS.6, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		During the animal physiology course in the winter semester, the student acquires basic and advanced knowledge of the physiology of the nerve system, motion apparatus, cardiovascular system, respiratory system and endocrinology. The acquired knowledge will allow us to understand the functioning of individual organs/systems and the body as a whole.	
Examination methods:		Written credit, Presentation	

Subject name:		Biochemistry (2)	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the main metabolic pathways of the most important biochemical compounds: carbohydrates, amino acids, proteins, lipids, porphyrins, nucleic acids.	A.W10, A.W4
	W2	connection between improper functioning of metabolic pathways and metabolic diseases (e.g. ketosis, diabetes, phenylketonuria, gout, etc.).	A.W10, A.W11, A.W4
	W3	specificity of metabolic pathways in distinct organs and tissues in relation to synthesis/catabolism of specific biochemical compounds.	A.W10, A.W11, A.W12, A.W4
	W4	signal transduction pathways induced by different compounds belonging to hormones or growth factors.	A.W4, A.W9
	W5	biochemical composition and characteristics of semen, milk and urine.	A.W2, A.W4
Skills: (In terms of skills, the graduate can)	U1	identify specific metabolites of biochemical compounds and determine their properties based on characteristic reactions.	A.U2, A.U4
	U2	use the main laboratory techniques, such as: qualitative analyses, titration, colorimetric measurements, diagnostic tests.	A.U2
	U3	predict direction of metabolic processes depending on the energetic status of the organism (availability of proteins, lipids, carbohydrates in diet).	A.U4, A.U5
	U4	point differences among species in regard to metabolic changes in animal organisms.	A.U2, A.U5, A.U7
	U5	point differences among species in regard to physiological and pathological values of biochemical parameters in animals' blood and urine.	A.U2, A.U5, A.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	share his/her knowledge and practical skills with other team members.	KS.9
	K2	interpret results obtained and make conclusions based on performed analyses or observations, and is able to explain the results in a clear and factual manner using arguments based on available scientific literature regarding veterinary sciences.	KS.4, KS.5
	K3	be critical to his/her knowledge and understands the necessity of constant upgrading this knowledge using the most up to date publications and data.	KS.7, KS.8
	K4	use his/her knowledge and skills in further steps of education.	KS.8
Course content ensuring the achievement of learning outcomes:		The second semester of the Biochemistry course aims to teach students about the most important biochemical processes necessary for the proper functioning of animal organisms. Students are taught about the metabolic pathways of the main groups of biochemical compounds (carbohydrates, lipids, proteins, nucleic acids, porphyrins), pathologies connected with the disorders concerning these metabolic pathways, and biochemical aspects of cellular signalling. The metabolic pathways are also presented in the proper functioning of specific organs and tissues. During the practical part of the course, students perform qualitative and quantitative analyses that are used in biochemical diagnostics, and are essential for veterinary medicine.	
Examination methods:		Written exam, Written credit, Assessment of work in the laboratory	

Subject name:		Comparative anatomy	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	proper structures of animal organism,	A.W1, A.W2, A.W3
	W2	an anatomy, describes and explains functions of certain systems in animal organism (respiratory, digestive, circulatory, motor, reproductive, hormonal, immunological and common integument,	A.W1, A.W2, A.W3
	W3	use English and Latin medical nomenclature,	A.W1, A.W2, A.W3
	W4	determines position and function of muscles, position of blood vessels and nerves as well as anatomy of joints in selected species	A.W1, A.W2, A.W3
	W5	estimates proper anatomical structure of animal organism	A.W1, A.W2, A.W3
	W6	the differences between species, breeds and morphotypes in anatomy of certain structures and organs,	A.W1, A.W2, A.W3
	W7	the importance of certain structures and organs in clinical practice.	A.W1, A.W2, A.W3
Skills: (In terms of skills, the graduate can)	U1	listen and answer in clear concise language	A.U12, A.U13, A.U14, A.U15, A.U16, A.U19, A.U21, A.U23, A.U6
	U2	understand the need for continuous education	A.U12, A.U13, A.U14, A.U15, A.U16, A.U19, A.U21, A.U23, A.U6
	U3	acquires skills to use basic surgical instruments in anatomical preparation	A.U12, A.U13, A.U14, A.U15, A.U16, A.U19, A.U21, A.U23, A.U6
	U4	acquires skills in soft tissues surgery	A.U12, A.U13, A.U14, A.U15, A.U16, A.U19, A.U21, A.U23, A.U6
	U5	make fast decisions during surgical interventions knowing own limitations during surgical intervention	A.U12, A.U13, A.U14, A.U15, A.U16, A.U19, A.U21, A.U23, A.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	a habit of constant improvement of knowledge and abilities	KS.4, KS.5, KS.6, KS.7, KS.8, KS.9
	K2	organize teamwork necessary for further education	KS.4, KS.5, KS.6, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		The subject aims to teach the students the proper anatomical position of musculature, lymph nodes, blood vessels and nerves in domestic animals (dog, cat, horse, cattle), accounting for the clinical aspects. Detailed arthrology knowledge; establishing a proper foundation for further studies of Topographical anatomy, Physiology, Clinical diagnostics, Pathological anatomy, subjects connected with animal husbandry, and slaughter animals' hygiene. Among the main objectives of the subject is teaching the students the correct usage of surgical instruments and knowledge on anatomical limitations of surgical interventions.	
Examination methods:		Written credit	

Subject name:		Ethology	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	problems related to animal behaviour	A.W10
	W2	factors related to animal behaviour development	A.W9
	W3	an outline of the theoretical aspects of ethology	A.W10
	W4	the theory of animal welfare and the method of it measure	A.W11
Skills: (In terms of skills, the graduate can)	U1	analyze animal behaviour using ethological methods in the case of disease and behavioural problems	A.U4
	U2	assess the welfare of the given animal	A.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	opinion (expertise, diagnosis) concerning animal behaviour in the discussion with an animal owner	KS.6
Course content ensuring the achievement of learning outcomes:		The aim is to provide student with knowledge on problems of animal behaviour and animal welfare useful in veterinary practice.	
Examination methods:		Oral credit, Essay	

Subject name:		Molecular cell physiology	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the functions and actions of some components of eukaryotic cell (compartmentalization)	A.W1, A.W10, A.W11, A.W4
	W2	metabolic processes on the molecular, cellular, organ and organism level	A.W4
	W3	mechanisms underlining animal health, disease and their therapy – from the cellular level, through organs, organism, herd to the whole population of animals	A.W10
	W4	relationship between factors influencing homeostasis of biological processes and physiological, and pathological changes	A.W11
	W5	pathophysiological changes in the organs and systems, biological mechanisms (including immunological) and therapeutic actions facilitating recovery	A.W10, A.W11, A.W4
	W6	laws governing intellectual property	A.W23
Skills: (In terms of skills, the graduate can)	U1	describe changes in the function of the organism occurring upon alteration of homeostasis	A.U4
	U2	predict direction of biochemical processes depending on the energetic status of the cell	A.U5
	U3	define physiological status of the animal as an adaptive process to environmental variability	A.U7
	U4	listen and explain in the language that is understandable and appropriate for the situation	A.U13
	U5	operate in the interdisciplinary team	A.U15
	U6	understand the need of continuous education for professional development	A.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Utilise unbiassed sources of information	KS.4, KS.5, KS.6, KS.7
	K2	Formulate conclusions from personal measurements or observations	KS.5
	K3	perform critical self-evaluation, formulate constructive criticism regarding veterinary practice, accept criticism regarding postulated solutions, factual respond to that criticism based on the current scientific knowledge	KS.7
	K4	Constantly update knowledge and skills for professional development	KS.8
	K5	Communicate with co-workers and share the knowledge	KS.9

Course content ensuring the achievement of learning outcomes:	The aim of teaching the subject "Molecular Cell Physiology" is to provide up-to-date knowledge of the molecular mechanisms regulating the life of an animal cell. During the course, students will learn in detail about the structures and functions of an animal cell, the synthesis of nucleic acids, processes of DNA assembly, expression and modification of proteins. The mechanisms of cell proliferation and death, which are targets for the therapy of many diseases, will be discussed in detail. The most important signal transduction pathways in cells will be presented, as well as, the examples of their dysregulation in pathological conditions. Moreover, the mechanisms of carcinogenesis, and the biology of neoplastic and stem cells, will be discussed. Attention will be paid to modern veterinary medicine therapies targeting specific cell types. Finally, students will be introduced to the most important research techniques used in basic and preclinical veterinary research and the use of cells in veterinary regenerative medicine. Lectures: 1. Organization of the cell. The cell nucleus. Replication, transcription, transcription factors, epigenetic regulation of gene expression (2h). 2. Translation, post-translational modification of proteins, sorting and distribution of proteins, transport of proteins to endosomes and mitochondria. Constitutive and regulated protein secretion (2h). 3. Mitochondria and cellular respiration. Cellular metabolism. Hypoxia, oxidative and nitrosative stress (2h). 4. Structure and functions of the cell cytoskeleton and extracellular matrix. Adhesive molecules (2h). 5. Cell membrane, membrane transport, intercellular signaling. Mechanisms of MDR (2h). 6. Plasma membrane and nuclear receptors. The structure, distribution, and functions. Examples of intracellular signal transduction pathways. Second messengers and signal amplification (4h). 7. Cell proliferation and the cell cycle. Mechanism of action of cytostatic and immunosuppressive drugs (3h). 8. Mechanisms of cell survival and death. Mechanism of action of cytotoxic drugs (2h). 9. Methods of elimination of damaged cell structures and proteins. Aging of cells (2h). 10. Mechanisms of carcinogenesis. DNA repair mechanisms. Tumour development stages. Tumour angiogenesis and immune escape (3h). 11. Stem cells - biology and application in veterinary regenerative medicine. Tissue engineering (2h). 12. Monoclonal antibodies in diagnostics and therapy. Molecularly targeted therapies (2h). 13. Methods used in the study of animal cells. Cell and tissue cultures. Research on gene expression, protein concentration. Metabolic tests. Structure and ultrastructure assessment. Flow cytometry (2h).
Examination methods:	Written credit

Subject name:		Polish language (2)	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the rules of pronunciation, accent and intonation in Polish.	C.W1
	W2	basic adjectives.	C.W1
	W3	the names of sports, interests and hobbies as well as adverbs of frequency.	C.W1
	W4	conjugation of verbs: to like, to prefer, to please, to walk, to ride,	C.W1
	W5	the rules of forming past tense forms of the singular.	C.W1
	W6	the vocabulary related to expressing feelings and describing well-being.	C.W1
	W7	the names of the basic parts of the human body and the vocabulary related to a visit to the doctor.	C.W1
	W8	the conjugation of the verbs in the present tense: to want, to be able, to have and the structures expressing offers, accepting and rejecting.	C.W1
	W9	the structures used when making a request and responding to someone's request.	C.W1
	W10	the names of various equipment and devices used in everyday life and the vocabulary related to describing the problem with this equipment and the way to solve the problem.	C.W1
Skills: (In terms of skills, the graduate can)	U1	correctly pronounce, accentuate and intone statements in Polish.	C.U1, C.U4
	U2	describe objects and people and express preferences.	C.U1, C.U4
	U3	talk about his interests and hobbies and how often he does them.	C.U1, C.U4
	U4	express feelings, give a reason and tell about the well-being.	C.U1, C.U4
	U5	talk to the doctor about his well-being.	C.U1, C.U4
	U6	make an offer, accept and reject someone's offer.	C.U1, C.U4
	U7	informally or officially present an offer and accept or reject someone's offer	C.U1, C.U4
	U8	informally or officially ask someone for a favor and respond to someone's request appropriately.	C.U1, C.U4
	U9	present a problem he has in everyday life and suggest a solution to it; give advice.	C.U1, C.U4
	U10	construct short and longer utterances related to the routine of everyday life and his/her experiences in the past and to express himself/herself quite fluently	C.U1, C.U4
Social competences: (Within the scope of competence, the graduate is ready to)	K1	express his feelings and give a reason for them and describe his well-being and health during a visit to the doctor.	KS.1, KS.10, KS.2, KS.3, KS.4, KS.5, KS.6, KS.8, KS.9

	K2	ask for help, express a request, propose or present a problem and give advice in unofficial and official everyday situations.	KS.1, KS.10, KS.2, KS.3, KS.4, KS.5, KS.6, KS.8, KS.9
	K3	behave and react properly in various situations of interpersonal communication.	KS.1, KS.10, KS.2, KS.3, KS.4, KS.5, KS.6, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		Student will develop speaking, listening, reading and writing skills and achieve a A1.2 level of Polish language according to the Common European Framework of Reference for Languages, CEFR	
Examination methods:		Written credit, Oral credit, Assessment of activity during classes	

Subject name:		Technologies in animal production	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	1. basic technologies of animal production and how to handle farm animals in safe and human way 2. conditions of hygiene and appropriate utilisation and disposal of animal by-products 3. management of waste from animal production, 4. conditions of animal welfare, 5. rules of intellectual property	B.W12, B.W15, B.W20, B.W22, B.W9
Skills: (In terms of skills, the graduate can)	U1	1. recognize and evaluate the animal health problems descending from production technology 2. evaluate the influence of the technology on quality of the products of animal origin	B.U20, B.U25
Social competences: (Within the scope of competence, the graduate is ready to)	K1	1. advise farmer how to improve his farm facilities 2. ordain information on proper technology	KS.4, KS.5
Course content ensuring the achievement of learning outcomes:		During the course, students are supposed to acquire basic procedures in animal technology like identification, decornuation etc.; the rules of handling large animals; the problems associated with animal transportation; utilisation of by-products including waste from animal production.	
Examination methods:		Written credit, Oral credit	

Subject name:		Veterinary economics	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	knowledge of economic processes of animal production and pets keeping.	B.W22
Skills: (In terms of skills, the graduate can)	U1	acquire the skills by students to evaluate complex socio-economic system implications of veterinary practice.	A.U18, A.U20, A.U22
Social competences: (Within the scope of competence, the graduate is ready to)	K1	form attitudes by the students to critically evaluate personal actions and actions of others to improve professional conduct.	KS.6
Course content ensuring the achievement of learning outcomes:		The course develops knowledge in the field of veterinary economics with the special focus on the on-farm economics and the economic issues beyond the farm level. It also develops and enhances practical professional skills of evaluation of economic and social implications of the veterinary practice in changing environment. During the course student develops personal competences in the fields of economic behaviour and will be able also to critically evaluate personal actions and actions of others to improve proposed solutions.	
Examination methods:		Project, Report, Essay	

Subject name:		Veterinary epidemiology	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basic epidemiological definitions and measures	A.W13, B.W5
	W2	the basic concepts of the theory of diagnostic tests	A.W13, B.W4, B.W5
	W3	the principles of conducting observational studies	A.W13, B.W5, B.W6
	W4	the principles of conducting clinical trials	A.W13, B.W5, B.W6
	W5	the principles of designing and conducting disease surveys, including questionnaire surveys	B.W6
	W6	the basics of animal disease control	A.W13, B.W16, B.W6, B.W9
Skills: (In terms of skills, the graduate can)	U1	plan, design and carry out epidemiological studies (disease surveys, observational and clinical studies)	A.U13, A.U15, A.U16, A.U19, A.U23, B.U20, B.U25, B.U6, B.U8, B.U9
	U2	interpret the parameters characterizing diagnostic tests and apply appropriate diagnostic tests in practice	A.U19, B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	conduct epidemiological analyses using appropriate computer software	KS.1, KS.11, KS.2, KS.4, KS.5, KS.7, KS.8, KS.9
	K2	critically analyses the results obtained and is able to use them in practice	KS.1, KS.4, KS.5, KS.7, KS.8
Course content ensuring the achievement of learning outcomes:		The main objectives of the course cover theoretical and practical information on epidemiological methods used in veterinary sciences. Students acquaint with basic epidemiological concepts, basic knowledge about course of a disease in population, diagnostic tests theory, disease survey, observational studies, evidence based medicine, clinical trials and basics of disease control.	
Examination methods:		Written credit	

Subject name:		Veterinary microbiology (1)	ECTS: 5
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the structure of bacteria, fungi, and viral particles.	A.W13
	W2	the organization of genetic material and its implication on virulence and chemotherapeutics resistance.	A.W14, A.W17, A.W18
	W3	the physiology of microbial growth including how this is influenced by changes in the local environment.	A.W13, A.W15
	W4	the continuum from microbial colonization to infection to disease.	A.W13
	W5	the familiar with microbial virulency. the role of microbes in health maintenance.	A.W13
	W6	principals of antimicrobial function, understands the specifics of antibiotic usage, how antibiotic resistance is acquired how to test antimicrobial susceptibility of bacteria.	A.W13, A.W15, A.W17, A.W18
	W7	the scientific names of the most significant disease causing agents and the associated diseases.	A.W13, A.W20
	W8	the epidemiology of infectious diseases and the role of microbes in public health issues.	A.W13
Skills: (In terms of skills, the graduate can)	U1	apply safety rules for handling clinical or laboratory specimens containing pathogens, process clinical specimens aseptically and properly.	A.U10
	U2	performs and interprets microbiological tests in the microbiology laboratory.	A.U10
	U3	recognize unique characteristics of pathogens and names associated with the agent(s).	A.U10
	U4	perform and interpret an antimicrobial susceptibility test.	A.U10, A.U11
Social competences: (Within the scope of competence, the graduate is ready to)	K1	explain importance of microbes for the animal health and welfare.	KS.9
	K2	detect and identify microorganisms, and determine the epidemiologic links between isolates.	KS.11, KS.9
Course content ensuring the achievement of learning outcomes:		The veterinary microbiology module aims to give the prospective veterinary surgeon adequate knowledge and skills that apply to veterinary medicine. Emphasis is placed on understanding the nature of infectious organisms, the mechanisms by which they cause disease and how the host responds to infection. During the microbiology course -module 1, a Faculty of Veterinary Medicine student acquires basic knowledge about selected eukaryotic, prokaryotic and subcellular groups of pathogens for animals and humans. Students learn about the mechanisms of their pathogenic activity, isolation and identification methods. Veterinary medicine students are expected to understand the role of microbiota in health and disease, recognize the importance of biosecurity, public health threat posed by zoonotic diseases, and microbial contamination of food of animal origin. The program is designed to integrate bacteriology, mycology and virology. Also, an opportunity is provided for students to practice basic laboratory techniques and procedures used to diagnose microbial disease. The course is designed to enable the student to fulfil the national and EU educational requirements and achieve competence in veterinary microbiology.	

Examination methods:	Test (written or computer based), Assessment of work in the laboratory, Assessment of activity during classes

Subject name:		Animal rights - legal protection system	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	fundamental concepts, theories and methods of reasoning from general ethics.	C.W2
	W2	defending or opposing uses of animals, and theoretical claims about our obligations toward animal	C.W2
	W3	the legal concepts regarding animals.	C.W2
Skills: (In terms of skills, the graduate can)	U1	apply ethical concepts to specific moral issues concerning animals.	A.U19, A.U21
	U2	the most influential moral arguments and positions are given in defence of animal use and against increased animal protection, these arguments' differences, the most common and significant objections that are raised against them and how these arguments' advocates might respond in defines of their positions	A.U19, A.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	deeper development their views on the nature of our obligations to animals and be more able to provide moral defences of their views and respond to critical objections and questions	KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Test (written or computer based)	

Subject name:		Critical thinking	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	what the 6 basic critical thinking skills are, and how to maintain and improve them, what questions to ask to critically assess and evaluate news and information.	C.W2
Skills: (In terms of skills, the graduate can)	U1	analyse information, solve problems more efficiently, communicate and maintain psychological hygiene better.	C.U2, C.U3, C.U4
Social competences: (Within the scope of competence, the graduate is ready to)	K1	-develops ability to think more independently, to investigate and evaluate information from different viewpoints and to synthesize personal opinion based on the evidence available. -find and use reliable information sources, -develops ability to care for herself/himself better in order to be able to excel in higher order of thinking.	KS.1, KS.10, KS.11, KS.3, KS.4, KS.5, KS.6, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		The main objective of this course is to teach students critical thinking abilities and tools that will assist them in their careers and personal lives, and to educate them on traps of post truth culture of contemporary world. They will learn to explore todays zeitgeist of mainstream and social media in a way to easily detect fake news, conspiracy theories, subliminal messaging. They will learn about dangers of polarisation of views, discuss various cases of media feeding frenzy, and other misrepresentations of reality present in contemporary learning space. The objective is to teach students thinking skills necessary in modern world of untamed 24/7 information, full of fake news, post truths, conspiracy theories and simple lies available on different media and education platforms. While discussing science, political and cultural news, students will have a chance to look at them from different perspectives and asses their soundness using critical thinking tools. The aim is to help students develop ability to investigate and evaluate information from different viewpoints and synthesize their own opinion based on the evidence available.	
Examination methods:		Report, Presentation, Assessment of activity during classes	

Subject name:		Medical botany	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the situation when medicinal plants can be used to prevent/treat animal diseases	A.W10
	W2	the properties of selected medicinal plants	A.W16
	W3	how and when to use medicinal plants as alternatives to antimicrobials	A.W17
	W4	different types of formulations containing medicinal plants	A.W16
Skills: (In terms of skills, the graduate can)	U1	analyses critically available literature	C.U2
Social competences: (Within the scope of competence, the graduate is ready to)	K1	advise animal owner/farmer on the use of medicinal plants	KS.5
	K2	reacts adequately to the expectations of animal owner in regards to phytotherapy	KS.2, KS.3
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Essay	

Subject name:		Animal nutrition and feeding	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	rules of animal feeding (according to the species specifics).	B.W13, B.W14
	W2	symptoms resulting from wrong nutritional and/or feeding practice.	B.W13, B.W14
	W3	rules for consumer risk assessment.	B.W13, B.W14
Skills: (In terms of skills, the graduate can)	U1	elaborate and analyse diet composition.	B.U20, B.U21, B.U22
	U2	interpret nutritional causes of pure animal performance.	B.U20, B.U21, B.U22
	U3	interpret information from scientific opinions and papers.	B.U20, B.U21, B.U22
Social competences: (Within the scope of competence, the graduate is ready to)	K1	calculate a well balanced diet ordains information on proper animal nutrition	KS.4, KS.5
Course content ensuring the achievement of learning outcomes:		During the course, students acquire knowledge of nutrients and basic principles of feeding. Students should understand health problems arising from improper nutrition, including deficiencies, toxicoses and imbalances of nutrients.	
Examination methods:		Written exam, Oral exam, Written credit, Oral credit, Project, Presentation	

Subject name:		Animal physiology (2)	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the functioning of individual cell structures / systems / organs such as smooth muscle, digestive system, liver, pancreas, respiratory system, kidney, female and male reproductive system, mammary gland, adipose tissue.	A.W1, A.W10, A.W2, A.W4, A.W8, A.W9
	W2	the species differences in the functioning of organs / systems and their physiological parameters (digestive system - specificity of digestion in ruminants, thermoregulation, kidney, reproductive system, pregnancy and lactation, physiology of birds).	A.W2
	W3	the functional connections between the organs / tissues.	A.W2, A.W4
	W4	the methods of testing parameters determining the physiological state of the body such as: water and electrolyte balance, peripheral blood morphological analysis, methods of testing kidney function, indirect transformation.	A.W11, A.W4, A.W5
	W5	the mechanisms integrating the functioning of the whole body and maintaining homeostasis of the body (thermoregulation, water and electrolyte balance, acid-base balance, metabolism and energy).	A.W11, A.W4, A.W5, A.W9
	W6	the disturbances in the functioning of the organs as examples of malfunctioning of the body.	A.W11
	W7	the concepts of intellectual property protection.	A.W23
Skills: (In terms of skills, the graduate can)	U1	explain the physiological mechanisms / molecular mechanisms of cellular structures / organs / systems such as: the nervous system, CNS, AUN, skeletal muscles, heart muscle, cardiovascular system, sense organs, respiratory system.	A.U8
	U2	explain the physiological fundamentals / mechanisms of sensation and perception, movement and maintenance of body posture, physiological fundamentals of behavior, endocrinology (hypothalamic-pituitary axis, peripheral endocrine glands and tissue hormones), regulation of blood flow in vessels, gas exchange.	A.U7, A.U8
	U3	indicate how the discussed tissues / organs / systems can affect each other and what are the consequences for the functioning of the body.	A.U8
	U4	indicate the parameters describing the physiological state of the organs / systems in question - can define the physiological (health) state of the body.	A.U1, A.U12, A.U4, A.U7
	U5	plan and carry out a simple experiment allowing the analysis of physiological parameters.	A.U13, A.U14, A.U15, A.U23
	U6	perform a morphological analysis of peripheral blood by a traditional method, spirometry by various methods and examine blood saturation.	A.U2
Social competences: (Within the scope of competence, the graduate is ready to)	K1	evaluate and interpret the functioning of the body / systems / organs / cells in the context of smooth muscle activity, digestive system, liver, pancreas, respiratory system, blood, kidney, reproductive system of the female and male, mammary gland, adipose tissue, their mutual impact and ensure the homeostasis of the body.	KS.1, KS.4, KS.5, KS.6, KS.7
	K2	indicate interspecies differences in the functioning of organs / systems and explain the molecular / physiological basis of these differences (digestive system - specificity of digestion in ruminants, thermoregulation, kidney, reproductive system, pregnancy and lactation, physiology of birds).	KS.1, KS.4

	K3	perform basic physiological (scientific) experiments and to draw correct conclusions from the observations made.	KS.5
	K4	critical of his knowledge and constantly updates it in accordance with the latest state of general knowledge, uses scientific sources to expand his knowledge.	KS.4, KS.7, KS.8, KS.9
	K5	cooperate - consult other people and share the knowledge with others.	KS.3, KS.4, KS.7, KS.9
	K6	apply his knowledge and skills in further stages of education.	KS.1, KS.4, KS.5, KS.6, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		During the animal physiology course in the summer semester, the student acquires basic and advanced knowledge of the physiology of gastrointestinal system energy balance, water homeostasis, storage systems, excretory systems, animal reproduction, lactation and the basic physiology of neonates. The acquired knowledge will allow students to understand the functioning of individual organs/systems and the body as a whole. It will also be the basis for further education of students allowing the identification of disorders in the proper physiological functioning of the body and its tissues/organs (among others: pathophysiology, and internal diseases).	
Examination methods:		Written exam, Presentation	

Subject name:		Immunology	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the structure and functions of individual parts of the immune system in the context of the physiology of other systems of the host	A.W2, A.W4
	W2	the mechanisms of innate and adaptive immunity	A.W10, A.W13, A.W2, A.W4
	W3	the methods of inducing and assessing the systemic and local immune response	A.W11, A.W12, A.W13, A.W15
	W4	the mechanisms regulating the immune response induced by infectious agents and cancer	A.W11, A.W13, A.W18
	W5	the types of vaccines, understands the mechanisms of their mode of action, and the demand for human and animal infectious diseases immune-prophylaxis	A.W10, A.W11, A.W12, A.W15
	W6	the mechanisms associated with the transmission of passive immunity from the mother, understands the causes of immune disorders associated with maternal antibodies	A.W11, A.W12, A.W13
	W7	the mechanisms and describes the development of all types of hypersensitivity, is aware of the consequences arising from these mechanisms	A.W10, A.W11, A.W12, A.W2
	W8	the causes and consequences of innate and adaptive immunity deficiencies and disorders	A.W10, A.W2, A.W3, A.W4
	W9	the basis of autoimmune diseases in humans and animals	A.W10, A.W12, A.W2, A.W4
	W10	the importance of serological (qualitative and quantitative) tests for the diagnosis of infectious diseases	A.W10, A.W15
Skills: (In terms of skills, the graduate can)	U1	prepare animal serum for serological tests	A.U2
	U2	independently perform a simple serological test (quantitative and qualitative test: agglutination, passive immunodiffusion, and neutralization) and interpret the results of serological tests in the context of the diagnosis of infectious diseases	A.U10
	U3	use conjugates of monoclonal antibodies in the context of infectious diseases diagnostic tests and assessment of the patient's state of health (immunofluorescence assay, enzyme immunoassay, and radioimmunoassay) - for detection of antibodies in the patient's serum and identification of an infectious agent	A.U10, A.U2, A.U3
	U4	isolate specific populations of immunocompetent cells as well as determine their activity using enzyme immunoassay and immunofluorescence assays, and molecular biology methods.	A.U19, A.U2, A.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	formulates opinions in the context of the importance of immunology and serological tests in the diagnosis of infectious diseases, immune-mediated diseases, and the identification of immunodeficiencies	KS.1, KS.2, KS.5, KS.6
	K2	is aware of the need for immune prophylaxis of human and animal infectious diseases	KS.1, KS.5

	K3	apply obtained knowledge and skills in further stages of education	KS.4, KS.6, KS.7, KS.8, KS.9
	K4	exchanging opinions and share self-competences with colleagues and animal owners	KS.7, KS.9
Course content ensuring the achievement of learning outcomes:		Basic (contemporary) immunology has its roots in microbiology, genetics, biochemistry, cytology, molecular biology, biotechnology, pathology, and clinical observations. The primary goal of this course is to impart an understanding of the relations between body defence mechanisms and infectious agents and the ability of the immune system to recognize the altered self-cells. The effort is focused on understanding mechanisms that enable to design of efficacious vaccines that eventually control animal infectious diseases.	
Examination methods:		Written exam, Written credit, Presentation	

Subject name:		Parasitology and invasiology (1)	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the parasite species' characteristics, life cycles, and hosts.	B.W10, B.W3, B.W4, B.W5, B.W6, B.W8
	W2	the consequences of parasite infections (incl. zoonotic potency infections) in animals and humans.	B.W10, B.W3, B.W4, B.W5, B.W6, B.W8
	W3	antiparasitic compounds (drugs) and rules concerning their use in the control of parasite infection in animals.	B.W10, B.W2, B.W3, B.W4, B.W5, B.W6, B.W8
Skills: (In terms of skills, the graduate can)	U1	recognise clinical symptoms of parasitic infections.	B.U10, B.U13, B.U2, B.U3, B.U6, B.U7, B.U8, B.U9
	U2	recognise pathological lesions caused by parasites in the affected host.	B.U16
	U3	choose the adequate diagnostic method(s) to detect parasitic infection.	B.U16, B.U3, B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use knowledge to set up the optimal control method for parasitic infections.	KS.1, KS.11, KS.5
	K2	communicate with the owner using proper language and terms to discuss the infection’s issues.	KS.1, KS.11, KS.3, KS.6, KS.7
Course content ensuring the achievement of learning outcomes:		Introduction to basic definitions concerning General and Veterinary Parasitology. Meaning of terms: parasite, host and parasitism. Parasite life cycle – importance in Veterinary medicine. Definitions of final, intermediate and paratenic hosts. Epidemiological description of infection: intensity, prevalence, etc. Detection significance of invasive forms, ways of infection of endo- and ectoparasites in farm and companion animals. Impact of parasitic diseases on animal health and productivity. Presentation of parasitic diseases in the context of Veterinary Public Health. Role of veterinarian in the control of zoonotic parasite diseases. Characteristics of the infections caused by protozoans, trematodes and cestodes in farms, companion animals and humans.	
Examination methods:		Oral credit	

Subject name:		Polish language (3)	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Cultural differences and lifestyle in Poland, expressions and phrases about giving the advices, goals, someone's activities, making the appointments , how to express travel plans	C.W1
Skills: (In terms of skills, the graduate can)	U1	- speak about their nation - give the advices - determine the activity goal - express the notion of better, longer etc, - comparing life in Poland to other countries, comparing activities - talk about their past - report - talk about past activities in plural forms - express negation - make the appointments - communicate travel plans in aspect of time	C.U1
Social competences: (Within the scope of competence, the graduate is ready to)	K1	functioning in the environment of Poles, freely express their opinions, goals, get to know new people, to know their life style, to talk about travel plans	KS.4, KS.9
Course content ensuring the achievement of learning outcomes:		Topics cover stereotypes; giving advice; presenting a goal, asking about a plan; comparing (adverbs in comp. forms); experience of growing up; telling about free time hobby; reported speech; modal verbs in the past tense; expressing negations in the present, past and future; past activity; arranging visits, making the appointments; travel plans (using arrive, departure).	
Examination methods:		Written credit	

Subject name:		Topographic anatomy	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	stratigraphy, skeletotopy, holotopy and syntopy of structures and organs in selected domestic animals	A.W1, A.W2
	W2	differences in topography of certain anatomical features between species, breeds and morphotypes	A.W1, A.W2
	W3	normality of morphology and position of structures and organs in certain domestic animals	A.W1, A.W2, A.W3
	W4	relation between anatomy of certain species with pathogenesis of selected diseases	A.W1, A.W2, A.W20
	W5	importance of certain structures and organs in clinical practice	A.W1, A.W2, A.W3
Skills: (In terms of skills, the graduate can)	U1	contact with live animal	A.U13, A.U14, A.U19, A.U21, A.U6
	U2	estimate position of structures and organs as well as their physiological range and examine them by sight, hearing and palpation	A.U12, A.U13, A.U14, A.U21, A.U23, A.U6
	U3	make rational decisions in contact with a live animal taking into account health and safety procedures as well as animal welfare	A.U12, A.U13, A.U14, A.U15, A.U16, A.U21, A.U23, A.U6
	U4	work under stress	A.U21, A.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	contact with a live animal	KS.10, KS.4, KS.5, KS.6, KS.9
	K2	diagnose and therapy of animal illnesses	KS.7, KS.8, KS.9
	K3	understand the importance of anatomical knowledge in further veterinary education in the area of clinical subjects	KS.1, KS.4, KS.5, KS.7
	K4	understand the need for knowledge consolidation and necessity for further knowledge acquisition as well as need for exchange of professional experience and opinions among professionals	KS.1, KS.4, KS.5, KS.7
Course content ensuring the achievement of learning outcomes:		The subject aims to teach students about the position of organs and structures in animal organisms (dogs, horses, cattle) according to their skeletons, holotypic, syntopic and stratigraphic features. The aim of the subject is also to teach students spatial vision of the organism, which is the base for physical clinical examination, veterinary treatments as well as interpretation of results of diagnostic imaging. Among the main objectives of the subject is also showcasing the relationship between the specific anatomy of certain species and the pathogenesis of the most common diseases, establishing a proper foundation for further studies of clinical subjects such as pathological anatomy or slaughter animals' hygiene and allowing the students to obtain skills in safe contact with a live animal during a basic clinical examination.	
Examination methods:		Oral credit	

Subject name:		Summer practice_Husbandry practice	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	basic technologies of animal production and how to handle farm animals in safe and humane way conditions of hygiene and appropriate utilisation and disposal of animal by-products methods of breeding and husbandry selection conditions of animal welfare	B.W11, B.W15, B.W20, B.W9
Skills: (In terms of skills, the graduate can)	U1	recognize and evaluate the animal health problems descending from production technology and nutrition interpret and evaluate technologies used in animal production describes, interprets and evaluates standard procedures in animal production operate with specialists of other professions at production farm	B.U1, B.U20, B.U5
Social competences: (Within the scope of competence, the graduate is ready to)	K1	formulates conclusions from personal observations formulates opinions regarding various aspects of farm organization	KS.3, KS.4, KS.5, KS.6
Course content ensuring the achievement of learning outcomes:		Self-study, observation, practicals – work on the farm. Students acquire information and practical skills from employees of the establishment where they are trained, e.g. from farm owners, workers on species/breeds/categories of animals, a system of maintenance (cages, tied stalls, litter), division of animals into groups (age, production), diets and feeds (amount, quality, production), a system of feeding (summer, winter), husbandry of slurry/waste, hectares of land, plant growing schemes, economy and organization of animal production (price for products, e.g. live weight, self-sufficiency etc.), veterinary interventions.	
Examination methods:		Oral exam	

Subject name:		Veterinary microbiology (2)	ECTS: 5
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the scientific names of the most significant disease causing agents and the associated diseases.	A.W13
	W2	microbial virulency. Understands the role of microbes in health maintenance.	A.W13
	W3	the continuum from microbial colonization to infection to disease.	A.W13
	W4	the physiology of microbial growth including how this is influenced by changes in the local environment.	A.W13, A.W15
Skills: (In terms of skills, the graduate can)	U1	process clinical specimens aseptically and properly.	A.U10
	U2	performs and interprets microbiological tests in the microbiology laboratory.	A.U10
	U3	recognize unique characteristics of pathogens and names associated with the agent(s).	A.U10
Social competences: (Within the scope of competence, the graduate is ready to)	K1	explain importance of microbes for the animal health and welfare.	KS.9
	K2	detect and identify microorganisms, and determine the epidemiologic links between isolates.	KS.9
Course content ensuring the achievement of learning outcomes:		The subject aims to teach students about the position of organs and structures in the animal organism (dog, horse, cattle) according to their skeletons, holotypic, syntopic and stratigraphic features. The aim of the subject is also to teach students spatial vision of the organism, which is the base for physical clinical examination, veterinary treatments as well as interpretation of results of diagnostic imaging. Among the main objectives of the subject is also showcasing the relation between the specific anatomy of certain species and the pathogenesis of the most common diseases, establishing a proper foundation for further studies of clinical subjects such as pathological anatomy or slaughter animals' hygiene and allowing the students to obtain skills in safe contact with a live animal during a basic clinical examination.	
Examination methods:		Written exam, Test (written or computer based), Assessment of work in the laboratory, Assessment of activity during classes	

Subject name:		Clinical anatomy of rodents and rabbits	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the detailed morphology of organs and structures of chosen rodents and rabbits	A.W1, A.W2, B.W1
	W2	the general functions and morphological integration of organs and systems of chosen rodents and rabbits	A.W1, A.W2, B.W1
	W3	Latin and English anatomical terminology	A.W20
Skills: (In terms of skills, the graduate can)	U1	recognize the morphological diversity of chosen rodents and rabbits	A.U6, B.U1
	U2	describe the general functions and morphological integration of organs and systems of chosen rodents and rabbits	A.U6, A.U7, B.U1
	U3	use the current Latin and English anatomical terminology	A.U12, A.U13
Social competences: (Within the scope of competence, the graduate is ready to)	K1	describe the morphological diversity of chosen rodents and rabbits	KS.1, KS.4, KS.5, KS.6
	K2	use the sufficient knowledge and skills for further application in the learning process	KS.4, KS.8
	K3	updating knowledge and skills	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:		Program of the subject includes presentation of the macroscopic morphology of organs and structures of chosen rodents and rabbits. Morphology of: locomotor system, cardiovascular system, nervous system, respiratory system, digestive system, urogenital system, endocrine glands, sensory organs and common integument. The content of the lectures supplements the content of the laboratory classes.	
Examination methods:		Written credit	

Subject name:		Physiology of development	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Morphology of the animal organism: cells, tissues, organs and systems;	A.W1, A.W10, A.W11, A.W2, A.W3, A.W4
	W2	Structure, functions, regulatory mechanisms and integration of the systems of the animal organism (respiratory, gastrointestinal, cardiovascular, urinary, nervous, reproductive, endocrine, immune and skin);	A.W2
	W3	Development of organs and the whole organism in relation to the adult organism;	A.W3
	W4	Relationship between factors influencing homeostasis of biological processes and physiological, and pathological changes;	A.W11
	W5	Laws governing intellectual property;	A.W23
Skills: (In terms of skills, the graduate can)	U1	Describe changes in the function of the organism occurring upon alteration of homeostasis;	A.U4
	U2	Define physiological status of the animal as an adaptive process to environmental variability;	A.U7
	U3	Listen and explain in the language that is understandable and appropriate for the situation;	A.U13
	U4	Operate in the interdisciplinary team;	A.U15
	U5	Understand the need of continuous education for professional development;	A.U21
	U6	Predict direction of biochemical processes depending on the energetic status of the cell;	A.U5
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Utilise unbiassed sources of information;	KS.4, KS.5, KS.6, KS.7
	K2	Formulate conclusions from personal measurements or observations;	KS.5
	K3	Perform critical self-evaluation, formulate constructive criticism regarding veterinary practice, accept criticism regarding postulated solutions, factual respond to that criticism based on the current scientific knowledge;	KS.7
	K4	Constantly update knowledge and skills for professional development;	KS.8
	K5	Communicate with co-workers and share the knowledge;	KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit, Presentation	

Subject name:		Physiology of exercise	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	structure, describes and explains functions of the animal and human body with a special emphasis on nervous and muscular systems;	A.W1, A.W2, A.W4, A.W5
	W2	metabolic processes on the molecular, cellular, organ and organism levels;	A.W4
	W3	patophysiological changes in the organs and systems due to the strenous exercise and biological (including immunological) and pharmacological mechanisms facilitating recovery;	A.W11, A.W4, A.W7
	W4	mechanisms of the organ and organism adaptations to the exercise;	A.W2, A.W3, A.W5
Skills: (In terms of skills, the graduate can)	U1	describe changes in the function of the organism occurring upon alteration of homeostasis;	A.U4
	U2	define physiological status of the animal as an adaptive process to environmental variability;	A.U7
	U3	listen and explain in the language that is understandable and appropriate for the situation;	A.U13
	U4	operate in the interdisciplinary team;	A.U15
	U5	understand the need of continuous education for professional development;	A.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	formulate constructive criticism regarding cell functions with their relation to organs;	KS.1, KS.4, KS.5, KS.6, KS.7
	K2	evaluate physiological parameters of the cell;	KS.1, KS.4
	K3	conduct basic physiological experiments (scientific) and draw correct conclusions based on the observations;	KS.5
	K4	perform critical self-evaluation, formulate constructive criticism regarding veterinary practice, accept criticism regarding postulated solutions, factual respond to that criticism based on the current scientific knowledge;	KS.4, KS.7, KS.8, KS.9
	K5	communicate with co-workers and share the knowledge;	KS.3, KS.4, KS.7, KS.9
	K6	formulate opinions regarding various aspects of professional conduct;	KS.1, KS.4, KS.5, KS.6, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit	

Subject name:		Principles of animal handling	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the natural dog behaviour, also in case of differences in various animal condition. Student knows how to safely handle dogs in order to carry out clinical evaluation.	B.W9
Skills: (In terms of skills, the graduate can)	U1	handles animals in safe and humane way, and instructs others to do alike. Student knows self and employer responsibilities and obligations in light of the law and occupational health and safety regulations.	B.U1, B.U2
Social competences: (Within the scope of competence, the graduate is ready to)	K1	takes responsibility for his decisions concerning humans and animals. Student is ready to safely handle dogs during clinical evaluations	KS.1, KS.2, KS.3, KS.5, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Assessment of activity during classes, Presentation	

Subject name:		Principles of horse handling	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basic safety precautions in horse handling.	B.W11, B.W9
	W2	the natural horse behavior.	B.W11, B.W9
	W3	the principles of horses' housing and feeding.	B.W11, B.W9
	W4	the safety rules and procedures during leisure and sport usage.	B.W9
	W5	the rules and safety procedures during horse taming and transporting.	B.W9
Skills: (In terms of skills, the graduate can)	U1	recognize the natural horses' behavior.	B.U1, B.U20
	U2	recognize the horses' reluctance behavior and stereotypies.	B.U1, B.U20
	U3	safely brush, clean, and feed the horse in a stable.	B.U1
	U4	safely catch a freely moving horse.	B.U1
	U5	safely lead a horse in a walk and trot and safely stop a horse.	B.U1
Social competences: (Within the scope of competence, the graduate is ready to)	K1	safely lead the horse.	KS.1, KS.2, KS.5
	K2	use learning theory and taming techniques.	KS.1, KS.2, KS.4, KS.5
	K3	continue education and is ready to deepen his/her knowledge using scientific sources.	KS.4, KS.8
	K4	acquires competence in cooperation with horse owners, breeders, and trainers.	KS.3, KS.5, KS.6, KS.7, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Oral credit, Assessment of activity during classes	

Subject name:		Clinical and laboratory diagnostics (1)	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	basic nomenclature used in clinical and laboratory diagnostics	B.W1, B.W11, B.W13, B.W2, B.W4, B.W5, B.W6, B.W9
	W2	the relationship between the clinical examination methods of organ systems and proper choice of laboratory tests.	B.W1, B.W11, B.W13, B.W2, B.W4, B.W5, B.W6, B.W9
	W3	the basic principles of work in the analytical laboratory keeping in mind proper ethical values.	B.W1, B.W11, B.W13, B.W2, B.W4, B.W5, B.W6, B.W9
Skills: (In terms of skills, the graduate can)	U1	fill out the patient „clinical chart” specific for each species with information gathered from the interview and the clinical examination. use the indices of production, laboratory parameters and wellness parameters for the assessment of herd health status and diagnosis of subclinical disease states	B.U1, B.U2, B.U3, B.U5, B.U6, B.U7
	U2	perform the whole clinical examination, including the medical interview, general and detailed physical examination with special attention to standards of ethics	B.U1, B.U2, B.U3, B.U5, B.U6, B.U7
	U3	use the indices of production, laboratory parameters and wellness parameters for the assessment of herd health status and diagnosis of subclinical disease states	B.U1, B.U2, B.U3, B.U5, B.U6, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	prepared to assess biological laboratory samples (blood, urine) useful for laboratory tests	KS.1, KS.2, KS.5
	K2	prepared to read and identify results of laboratory tests with respect to reference values.	KS.1, KS.2, KS.5
Course content ensuring the achievement of learning outcomes:		The student learns the basic methods of general clinical examination, including species differences, to apply these methods in diagnosing diseases in individual animals and the herd. The student learns to collect biological material for laboratory tests along with the principles of its storage and transport to the laboratory to confirm the initial diagnosis. The student learns to collect information from anamnesis, a clinical exam, and the results of laboratory tests and record correct medical history.	
Examination methods:		Written credit	

Subject name:		Parasitology and invasiology (2)	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the parasite species' characteristics, life cycles, and hosts.	B.W10, B.W2, B.W3, B.W4, B.W5, B.W6, B.W8
	W2	the consequences of parasite infections (incl. zoonotic potency infections) in animals and humans.	B.W10, B.W2, B.W3, B.W4, B.W5, B.W6, B.W8
	W3	antiparasitic compounds (drugs) and rules concerning their use in the control of parasite infection in animals.	B.W10, B.W2, B.W3, B.W4, B.W5, B.W6, B.W8
Skills: (In terms of skills, the graduate can)	U1	recognise clinical symptoms of parasitic infections.	B.U10, B.U13, B.U2, B.U3, B.U6, B.U7, B.U8, B.U9
	U2	recognise pathological lesions caused by parasites in the affected host.	B.U16
	U3	choose the adequate diagnostic method(s) to detect parasitic infection.	B.U16, B.U3, B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use knowledge to set up the optimal control method for parasitic infections.	KS.1, KS.11, KS.5
	K2	communicate with the owner using proper language and terms to discuss the infection's issues.	KS.1, KS.11, KS.3, KS.6, KS.7
Course content ensuring the achievement of learning outcomes:		Characteristics of selected infections caused by parasitic nematodes and ectoparasites (insects and arachnids) and less often occurring ones (acanthocephalans, pentastomids) in farms, companion animals and humans. Introduction to clinical and molecular methods applied to detect and prevent parasite drug resistance. Alternative parasite infection prevention methods. Molecular mechanisms of host-parasite relations. Parasite antigens, immune host-parasite reactions, evasion mechanisms of an immune response, antiparasitic vaccines, allergies in parasitic infections.	
Examination methods:		Oral exam, Oral credit	

Subject name:		Pathomorphology (1)	ECTS: 8
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	theoretical knowledge in the field of general pathology of animals	B.W1, B.W2, B.W3, B.W4, B.W6
	W2	perform autopsies of a companion animal and a farm animal.	B.W4
	W3	disorders at the level of cell, tissue, organ, system and organism in the course of the disease.	B.W1
	W4	how to describes and interprets causes and symptoms, describes and interprets anatomopathological changes	B.W4
	W5	the health and safety rules applicable during the autopsy of animals and work in the histopathological laboratory.	B.W4
Skills: (In terms of skills, the graduate can)	U1	perform autopsies of animals.	B.U16, B.U2, B.U8
	U2	recognize the basic pathological processes in histopathological examination.	B.U7
	U3	collect tissue material for histopathological examination (sections of internal organs, pathological tissues removed during procedures, tissue bioptates) properly secure and properly send to the histopathological laboratory.	B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use the practically acquired knowledge and acquired skills	KS.1, KS.4, KS.5
Course content ensuring the achievement of learning outcomes:		The main goal of the course is to gain knowledge in the pathomorphology of domestic animals, to learn methods of performing necropsies of various domestic animals and to achieve the ability to interpret histopathological examination results correctly.	
Examination methods:		Written credit, Assessment of activity during classes	

Subject name:		Pathophysiology	ECTS: 8
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	- the mechanisms of homeostasis, - the regulation and the changes during life cycle, - the general criteria for differentiation between health and disease in individual animals, the herd and population. - the general classification of the diseases and the types of the onset.	A.W10, A.W12, A.W2, A.W4, A.W5, A.W7, A.W9
	W2	the mechanisms and the effects of environmental factors on the organism of certain companion and farm animal species and the herd health.	A.W10, A.W11, A.W12, A.W2, A.W4, A.W7
	W3	- the mechanisms responsible for cellular function disorders, cellular regulatory mechanisms, the mechanisms of cellular pathologies and cellular death. - the onset and role of inflammation in the pathologies of organs and systems. - the causes, onset and the effects of systemic disorders that occur in the diseases of organs and systems. - the mechanisms of organ diseases in certain companion and farm animal species. - the relations among pathological processes in the organism.	A.W10, A.W11, A.W12, A.W2, A.W20, A.W4, A.W5
Skills: (In terms of skills, the graduate can)	U1	describe the general mechanisms responsible for health and diseases comprehensively enough for effective communication with other members of veterinary team and the animal’s owner,	A.U1, A.U13, A.U21, A.U23, A.U4, A.U5, A.U7, A.U8
	U2	use the current nomenclature,	A.U1, A.U13, A.U21, A.U23, A.U4, A.U5, A.U7, A.U8
	U3	interpret symptoms of the diseases in the context of mechanisms that produced these symptoms,	A.U1, A.U13, A.U21, A.U23, A.U4, A.U5, A.U7, A.U8
	U4	indicate the relations among pathological processes and the differences among pathological processes typical for certain companion and farm animal species,	A.U1, A.U13, A.U21, A.U23, A.U4, A.U5, A.U7, A.U8
	U5	interpret the results of basic diagnostic tests in the context of organ and systemic pathologies,	A.U1, A.U13, A.U21, A.U23, A.U4, A.U5, A.U7, A.U8
	U6	evaluate CBC in inflammation,	A.U1, A.U13, A.U21, A.U23, A.U4, A.U5, A.U7, A.U8
	U7	-use the scientific sources as a help in clinical issues.	A.U1, A.U13, A.U21, A.U23, A.U4, A.U5, A.U7, A.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	formulate the opinions taking into account cellular and organ pathologies as a basis for clinical presentation of the disease and the onset of therapeutic process,	KS.1, KS.4, KS.5, KS.8, KS.9
	K2	prepare to use the sufficient knowledge and skills for further application in the learning process,	KS.1, KS.4, KS.5, KS.8, KS.9
	K3	understand the necessity of consultancy	KS.1, KS.4, KS.5, KS.8, KS.9
	K4	share the competencies with the veterinary team and the animal’s owner,	KS.1, KS.4, KS.5, KS.8, KS.9
	K5	use scientific sources.	KS.1, KS.4, KS.5, KS.8, KS.9

Course content ensuring the achievement of learning outcomes:	The main goal is to inform students about the disease's causes (aetiology) and progress (pathogenesis). Students should accomplish an understanding of how disturbances in homeostasis lead to the onset and progression of disease. The dynamics of the disorder, depending on the severity of the disease, should allow the evaluation of possible outcomes and prognosis for recovery.
Examination methods:	Test (written or computer based), Presentation

Subject name:		Polish language (4)	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	expressing skills, context associated with the presentation of their plans, contexts associated with visiting a doctor, veterinarian	C.W1
Skills: (In terms of skills, the graduate can)	U1	- express skills, knowledge, competence - specify the time of events in the context of the year - talk about future plans (verbs , future tense imp.) - express abilities, obligation, intension, future tense - talk about moving to different places - describe the weather phenomena - make an appointment to see a doctor - understand the basic medical therms - buy medicines at the pharmacy	C.U1
Social competences: (Within the scope of competence, the graduate is ready to)	K1	create natural communication situations and break the language barrier.	KS.1, KS.4
Course content ensuring the achievement of learning outcomes:		The objective is to achieve the ability to produce simple connected text on topics which are familiar or of personal interest; can describe experiences, hopes and give the reasons for opinions and plans. Polish in communication situations: social, family relations, skills, knowledge, competence, storytelling, last year vacations-past plural, future plans (verbs , future tense imp.), abilities, obligations, intensions, future tense, movement (motion verbs), description of weather phenomena, veterinary and medical terms (level B2).	
Examination methods:		Written exam, Oral exam	

Subject name:		Veterinary pharmacology (1)	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	definitions and concepts in the field of general pharmacology, pharmacokinetics and experimental pharmacology	A.W16
	W2	the detailed pharmacology of organ drugs in relation to about 150 active substances including: pharmacodynamics, pharmacokinetics, side effects and contraindications in the main species of domestic animals	A.W16
	W3	classify about 300 active substances together with their assignment to the appropriate ACTVet group (including 3 level of classification).	A.W16
	W4	drug interactions and polytherapy	A.W16
	W5	the basic level pharmaceutical law, including in the field of writing medicines on the prescription.	A.W19
	W6	the issues of drug impact on the environment and the problem of drug residues in products of animal origin.	A.W16
Skills: (In terms of skills, the graduate can)	U1	use the drug to achieve the desired changes in the functioning of a healthy body, taking into account the dose and route of administration	A.U4
	U2	choose the right drug to modify the body's functions in a given pathological condition.	A.U4
	U3	communicate knowledge in the field of drug action and justify the choice of drug for treatment.	A.U11
Social competences: (Within the scope of competence, the graduate is ready to)	K1	uses veterinary medicinal products in a responsible manner	KS.1
	K2	selection of the drug student is primarily guided by the well-being of the patient.	KS.2, KS.4
	K3	independently finds information about new drugs and can critically evaluate them	KS.4, KS.8
	K4	involved to developing and using new drugs, evaluates the differences between drugs based on observations.	KS.5
	K5	the knowledge necessary for further education	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:		Familiarization with general pharmacology (mechanisms of action of drugs at the molecular, cellular, organ and whole organism levels, pharmacokinetics, and drug interactions) and detailed pharmacology of organ-acting drugs (characteristics of selected veterinary drugs representing individual anatomical, therapeutic and chemical classification groups - ACTVet). Understanding of the classification of active substances used in the treatment of animals. Knowledge of the basics of veterinary pharmacotherapy (indications, contraindications, side effects and interactions of drugs in different species of animals).	
Examination methods:		Written credit	

Subject name:		Bacteriological and mycological laboratory diagnostics of skin infections in dogs and cats	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the molecular basis of virulence of microorganisms	B.W1, B.W2
	W2	the phenomena that make up colonization, infection, and disease, the mechanisms of opportunistic infections	B.W1, B.W2
	W3	the principles of aseptic, disinfection, antiseptics, and chemotherapy and skillfully uses them in laboratory work	B.W4, B.W8
	W4	animal infectious agents, epidemiology, and pathogenesis of bacterial and fungal skin diseases of dogs and cats	B.W4, B.W6
	W5	the knowledge about the occurrence of multi-drug resistant strains of microorganisms	B.W4
Skills: (In terms of skills, the graduate can)	U1	collect, analyze and correctly interpret clinical data and microbiological test results	B.U1, B.U16, B.U6, B.U7
	U2	be responsibility of the veterinarian in relation to the animal and its owner	B.U14
	U3	collect, protect samples and prepare them for transport	B.U16
	U4	perform standard laboratory tests, as well as correctly analyzes and interprets the results of laboratory tests	B.U1, B.U14, B.U16
	U5	estimate the risk of contamination and microbial infection and takes appropriate action	B.U14, B.U25
	U6	thoroughly conduct a veterinary and medical history and collect the animal's medical history	B.U14, B.U2, B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	shows responsibility for decisions made during animal diagnosis and treatment	KS.1, KS.4
	K2	obeys ethical principles	KS.2
	K3	makes decisions about the need to disinfect animals' living places and improve biosecurity measures	KS.1, KS.11
	K4	draws conclusions from the conducted clinical trial and uses additional sources of information to select the appropriate treatment	KS.5, KS.9
	K5	cooperate and consult other people and share her/his knowledge with others	KS.8, KS.9
	K6	use her/his knowledge and skills in further stages of education	KS.4, KS.5, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit	

Subject name:		One Health in veterinary practice	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basics of One Health strategy.	A.W16, B.W15, B.W17
	W2	the need of expanding interdisciplinary collaborations and communications in all aspects of health care for humans, animals and the environment.	A.W13, B.W20
	W3	a crucial role of veterinarians in implementation of the One Health concept as humans and animals share the same environment.	B.W17
	W4	implications of multidrug resistance, environmental pollution and climate changes for human and animal health.	A.W15, A.W16, A.W17, A.W18, B.W15, B.W17, B.W20, B.W6
Skills: (In terms of skills, the graduate can)	U1	describe and interpret drug resistance issues associated with animal health and environment protection in the aspect of the One Health strategy.	A.U10, A.U11, A.U16, A.U19, B.U13
	U2	implement the One Health approach into veterinary practice.	A.U16, A.U17, B.U10, B.U22, B.U23, B.U25
	U3	collaborate with healthcare professionals and other specialists.	A.U12, A.U15, A.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	an interdisciplinary collaboration to better understand and effectively resolve human and animal health problems.	KS.1, KS.11, KS.5, KS.6, KS.9
	K2	prevention and control of drug resistance and prudent use of antimicrobials is everyone's responsibility.	KS.1
	K3	constant education using current scientific sources.	KS.4, KS.7, KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit	

Subject name:		Veterinary virology	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the importance of viral infections for the health and welfare of animals, the risks associated with anthropozoonoses	A.W13
Skills: (In terms of skills, the graduate can)	U1	assess the risks to animals and humans resulting from the occurence and transmission of viral infectious agents	B.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	explain the importance of viral infections for animals and animal production	KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit	

Subject name:		Technics of managing of difficult emotions	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	what is the role of emotions, how to understand and manage them, what is psychological resilience and it's 4 pillars, how to take care of mental hygiene, how to improve resilience, dangers of different kinds of violence, social media, identity bubbles, value crisis.	C.W2, C.W3
Skills: (In terms of skills, the graduate can)	U1	recognize his/hers basic emotions, knows how to reflect on and name what he/she feels, knows how to allow herself/himself experience emotions. recognizes levels of his/ hers emotional resilience, how to take care of his mental hygiene, take steps to improve his/hers resilience, practice anapana meditation, practice positive emotion exercise.	A.U12, A.U13, A.U15, A.U16, A.U18, A.U19, A.U21, A.U22, A.U23
Social competences: (Within the scope of competence, the graduate is ready to)	K1	experience and build psychological resilience, takes better care of his/hers psychological wellness, deals with emotions, stress, thinks more independently, cope with challenges of work and life.	KS.1, KS.10, KS.11, KS.2, KS.3, KS.5, KS.6, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		Allowing our brain to experience emotions increases it's ability to deal with stress and other challenges of everyday life. Managing Difficult Emotions is a 7 lectures, 7 workshops class with a goal of teaching students how to deal with emotions and build psychological resilience to cope with stress. Stress is a big part of mental health since it can compromise brain's ability to function to the point we can not behave independently nor process information. What are the long and short term impactss of stress on our self-worth and understanding the world around us? How the contemporary global event as pandemia, war, inflation contribute to our mental health?In today's reality, where most of the traditional recipes for santity mold into great unknown, the burden of psychological hygiene relays on the individual as strongly as never before, and yet it is hardly taught in school. In the meantime 1 in 4 people in Europe experience mental problems such as neurosis, fobias, addictions, depression, etc. What exactly are these? What defines mental health? What is mental illness? What is happiness and how to "be well"? The answer often start with understanding and processing emotions which are the messages about our environment and the states of our minds. The course explores how to recognize and read them, and how to build psychological resilience in order to deal with the negative ones. It deals with antyfragility vs snow fkake concepts, various forms of violence that produces negatice emotions, inroduces meditation, CBT, Trauma Releasing Exercises, as well as simple, every day activities designed to allow oneself to recognize and feel emotions and build resilience.	
Examination methods:		Presentation, Assessment of activity during classes, Report	

Subject name:		Bee diseases	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	external and internal anatomy of the honeybee and the function of respective elements	B.W1, B.W11
	W2	constitution of honeybee colony and its basic physiology of honeybee colony	B.W11, B.W12
	W3	basic parts of beekeeping equipment and describes basic activities in bee management during the year	B.W11, B.W12, B.W9
	W4	the symptoms which may indicate the presence of basic adult bee and brood diseases and pests in the apiary	B.W1, B.W10, B.W2, B.W3
Skills: (In terms of skills, the graduate can)	U1	sample biological material for laboratory analyses	B.U1, B.U2, B.U3, B.U5, B.U6
	U2	recognize the symptoms which may indicate the presence of basic adult bee and brood diseases and pests in the apiary	B.U1, B.U2, B.U3, B.U5
	U3	implement proper procedures in case of bee diseases or poisoning	B.U1, B.U10, B.U11, B.U13, B.U15, B.U2, B.U8, B.U9
	U4	implement proper procedures in control of American foulbrood and varoosis	B.U1, B.U10, B.U13, B.U15, B.U2, B.U5, B.U8, B.U9
	U5	recognises the symptoms of solitary bee and bumblebee diseases, implements proper procedures of their control	B.U10, B.U13, B.U5
Social competences: (Within the scope of competence, the graduate is ready to)	K1	understand the role of honeybees in agriculture and environment as well as threats to which honeybee colonies are exposed	KS.1, KS.2, KS.3, KS.4, KS.5
Course content ensuring the achievement of learning outcomes:		The course aims to prepare students to perform basic tasks concerning honeybee health issues, which every veterinarian may come in contact with. It should also familiarize students with the basic health issues concerning silkworm, bumblebee, and solitary bee rearing. The course aims to prepare the students to: perform apiary inspection; recognize symptoms that may indicate the presence of adult bee and brood diseases, poisoning, or occurrence of pests in the apiary; proceed appropriately when suspicion of specific bee diseases or bee poisoning exists; collect samples for diagnosis of bee diseases and bee poisoning; diagnose and control American foulbrood and varroosis; recognize the symptoms of diseases in silkworms, bumblebees and solitary bees; proceed appropriately when bumblebee, silkworm or solitary bees diseases are suspected.	
Examination methods:		Test (written or computer based), Assessment of activity during classes	

Subject name:		Clinical and laboratory diagnostics (2)	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basic nomenclature in English and Latin used in the examination of the urinary, digestive, nervous and endocrine systems in dogs, cats, horses and cattle	B.W1, B.W11, B.W13, B.W2, B.W4, B.W5, B.W6, B.W9
	W2	the basic rules of clinical and laboratory recognition of metabolic diseases and mineral deficiencies	B.W1, B.W11, B.W13, B.W2, B.W4, B.W5, B.W6, B.W9
	W3	relationship between the clinical examination methods of organ systems and proper choice of laboratory tests.	B.W1, B.W11, B.W13, B.W2, B.W4, B.W5, B.W6, B.W9
Skills: (In terms of skills, the graduate can)	U1	make a clinical examination of an individual animal, based on the principles of ethics	B.U1, B.U2, B.U21, B.U3, B.U5, B.U6, B.U7
	U2	complete the document "medical history" during the examination, taking into account species specificity	B.U1, B.U2, B.U21, B.U3, B.U5, B.U6, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	correctly select laboratory parameters assessing the immune status of the animal or herd.	KS.1, KS.10, KS.2, KS.4, KS.5, KS.8, KS.9
	K2	correctly interpret laboratory results for the examination of the animal or herd's immune status.	KS.1, KS.10, KS.2, KS.4, KS.5, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		The student learns the basic methods of detailed clinical examination, including species differences, to apply these methods in diagnosing diseases in individual animals and the herd. The student learns to collect biological material for laboratory tests along with the principles of its storage and transport to the laboratory.	
Examination methods:		Written exam, Oral exam	

Subject name:		General surgery and anesthesiology	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	aseptics and antiseptics, injuries and their consequences effects of injuries,wound infections and treatment of wounds, and about the basics of anesthesiology,	B.W1, B.W2, B.W3, B.W4, B.W9
	W2	principles of handling animals, their restraint, and the examination of the organs of the abdomen and musculoskeletal organ examination	B.W1, B.W2, B.W3, B.W4, B.W9
	W3	the preoperative and postoperative management of patient, principles of tissue suturing and placement of knots and dressings	B.W1, B.W2, B.W3, B.W4, B.W9
Skills: (In terms of skills, the graduate can)	U1	put on sterile surgical gown and gloves,	B.U1, B.U11, B.U14, B.U4
	U2	sew and tie knots on phantoms and biological material,dressings in small and large animals,	B.U1, B.U11, B.U14, B.U4
	U3	selects suture materials, instruments, antiseptics for planned activities including maintenance of aseptic surgery	B.U1, B.U11, B.U14, B.U4
	U4	plan anesthesia and apply restraint and immobilization of animals	B.U1, B.U11, B.U14, B.U4
Social competences: (Within the scope of competence, the graduate is ready to)	K1	collaborate as part of the medical team with the surgeon, anesthesiologist and support staff,	KS.2, KS.4, KS.7, KS.8, KS.9
	K2	update knowledge and act in accordance with professional ethics,	KS.2, KS.4, KS.7, KS.8, KS.9
	K3	critically evaluate of their knowledge and skills and to use of various sources to supplement them	KS.2, KS.4, KS.7, KS.8, KS.9
	K4	critically evaluate of their knowledge and skills and to use of various sources to supplement them	KS.2, KS.4, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		The objective is for the student to learn basic surgery skills, learn basics of traumatology, wound healing aspects related to veterinary medicine, basic of anaesthesiology with general pre-and post-surgery care.	
Examination methods:		Test (written or computer based), Assessment of speeches during classes	

Subject name:		Meat hygiene (1)	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	veterinary legislation related to examination of slaughter animals and sanitary-veterinary assessment of slaughter animals and meat	B.W15, B.W16, B.W17, B.W18, B.W19, B.W21, B.W7, B.W8
	W2	aims and objectives of ante – and post-mortem examination of slaughter animals, proceedings after delivery of animals to the slaughterhouse (Food Chain Information) and ensuring animal welfare	B.W15, B.W16, B.W17, B.W18, B.W19, B.W3, B.W4, B.W5, B.W8, B.W9
	W3	sanitary requirements for slaughterhouses resulting from the system HACCP, taking into account utilization and environmental protection	B.W15, B.W16, B.W18
	W4	veterinary supervision over collection centers for slaughter animals, places to spend slaughter animals and transport	B.W16, B.W17, B.W5, B.W7, B.W8, B.W9
Skills: (In terms of skills, the graduate can)	U1	carry out veterinary supervision over collection centers for slaughter animals, places to spend slaughter animals and transport	B.U1, B.U11, B.U15, B.U2, B.U3, B.U4, B.U5, B.U8, B.U9
	U2	get information about the animal or slaughter animals and about their living environment	B.U19, B.U2, B.U20, B.U8
	U3	implement according official epizootic procedures in case of the law – regulated diseases in slaughter animals (infectious disease intended to compulsory eradication and control)	B.U19, B.U2, B.U20, B.U25, B.U6, B.U8
	U4	collect samples for microbiological tests and also for monitoring of presence of prohibited substances, chemical, biological, pharmaceutical and radioactive traces from slaughter animals, their secretions and excretions, tissues (meat, carcasses)	B.U20, B.U22, B.U23, B.U25, B.U6, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	demonstrate responsibility for veterinary-sanitary judgments of meat and meat products and other decisions made to protect public health	KS.1, KS.5
	K2	formulate veterinary-sanitary assessments of meat and meat products	KS.5, KS.6
	K3	deepen knowledge and participate in continuing education of veterinary surgeons, regarding Meat Hygiene and other fields of Veterinary Medicine	KS.2, KS.8
	K4	cooperate with owners and managers of Food Industry with particular emphasis on slaughterhouses and processing plants, with food technologists, with technologists and representatives of other professions in the field of public health protection	KS.11, KS.12, KS.3, KS.6, KS.9
Course content ensuring the achievement of learning outcomes:		The aim is to prepare students to work as either an official veterinarian or a private practitioner within the scope of consumer veterinary health protection, according to the "from field to table" principle. Students learn and master in practice the methods of sanitary and veterinary examination of slaughter animals (cattle, pigs, horses, poultry, rabbits, nutria) as well as quarry and game; they also learn about conducting sanitary and veterinary assessments of meat. Students also acquire knowledge from sanitary and veterinary supervision over animal buying-in points, transport, and slaughterhouses, which are responsibilities of the Veterinary Inspection, and they learn about veterinary legislation related to the sanitary and veterinary examination and assessment of slaughter animals and meat. Particular attention is paid to issues related to the welfare of slaughter animals.	
Examination methods:		Written credit, Test (written or computer based), Assessment of activity during classes	

Subject name:		Pathomorphology (2)	ECTS: 8
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	theoretical knowledge in the field of general pathology of animals.	B.W1, B.W2, B.W3, B.W6, B.W7, B.W8
	W2	disorders at the level of cell, tissue, organ, system and organism in the course of the disease.	B.W1
	W3	causes and symptoms, describes and interprets anatomopathological changes.	B.W2, B.W3
	W4	clinical data and the results of laboratory and additional tests.	B.W4, B.W6
Skills: (In terms of skills, the graduate can)	U1	perform autopsies of animals.	B.U16, B.U6, B.U8
	U2	recognize the basic pathological processes in histopathological examination.	B.U7
	U3	collect tissue material for histopathological examination (sections of internal organs, pathological tissues removed during procedures, tissue bioptates) properly secure and properly send to the histopathological laboratory.	B.U7
	U4	conduct a medical-veterinary interview in order to obtain accurate information about a single animal or group of animals and his or her in the living environment.	B.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use the practically acquired knowledge and acquired skills.	KS.1, KS.10, KS.4, KS.5, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		The main goal of the course is to gain knowledge in the pathomorphology of domestic animals, to learn methods of performing necropsies of various domestic animals and to achieve the ability to interpret histopathological examination results correctly.	
Examination methods:		Written credit, Assessment of activity during classes	

Subject name:		Response to public health related disasters	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the principles of protecting humans and animals from intentional and natural threats to public health.	B.W8
	W2	the effects of ABC-type contamination of the feed, animal and food, and environment.	B.W8
	W3	the role and rules of conduct of veterinary administration in crises.	B.W16, B.W8
Skills: (In terms of skills, the graduate can)	U1	plan and prepare to respond, and knows how to respond to a public health emergency.	B.U19, B.U8
	U2	distinguish between types of threats to public health	B.U19, B.U8
	U3	conduct an epidemiological investigation and assess exposure to ionising radiation.	B.U19, B.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	cooperate with other public health professionals	KS.1
	K2	work in a team	KS.11
	K3	assess his knowledge of public health threats.	KS.8
Course content ensuring the achievement of learning outcomes:		The veterinary profession is linked to public health protection. As part of public safety, public health is exposed to many risks. The consequence of these risks can be loss of health and life among humans and animals, as well as loss of property and environmental damage. Multidisciplinary teams are required to prepare, prevent, respond and recover. During the course, students will learn about different types of threats to public health of a natural and intentional nature, about methods of responding in the presence of threats, preparing for threats, preventing threats and recovering after the occurrence of threats. In addition, the course participants will become familiar with the basic administrative structure involved in implementing public safety tasks.	
Examination methods:		Test (written or computer based), Report	

Subject name:		Veterinary pharmacology (2)	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	definitions and concepts in the field of chemotherapy.	A.W16
	W2	the detailed pharmacology for about 200 chemotherapeutic substances including: pharmacodynamics, pharmacokinetics, side effects and contraindications in the main species of domestic animals	A.W16
	W3	classify about 300 active substances from the group of chemotherapeutics along with their classification to the appropriate ACTVet group (including 3 level of classification)	A.W16
	W4	the rules for writing chemotherapeutics on a prescription	A.W19
	W5	understand the issues of drug impact on the environment and the problem of drug residues in products of animal origin.	A.W16
Skills: (In terms of skills, the graduate can)	U1	select the appropriate chemotherapeutic for the defined infectious organism along with determining the dose and route of administration.	A.U4
	U2	assess drug interactions and its importance at polytherapy	A.U4
	U3	communicate knowledge in the field of drug action and justify the choice of drug for treatment.	A.U12, A.U13
Social competences: (Within the scope of competence, the graduate is ready to)	K1	prescribe and use drugs responsibly.	KS.1
	K2	choose a medicine in the best interests of the patient	KS.2, KS.4
	K3	find on their own information on new chemotherapeutic agents	KS.4, KS.8
	K4	assesses the differences between drugs based on their own observations	KS.5
	K5	deepens the knowledge necessary for further education	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:		Acquaintance with chemotherapeutics used in animal treatment and principles of chemotherapy. Acquaintance with the detailed pharmacology of all groups of chemotherapeutics (antibacterial, antiviral, antiparasitic, anticancer), including mechanisms of drug action, resistance mechanisms, pharmacokinetics, interactions, indications and contraindications, side effects, issues of drug residues in tissues.	
Examination methods:		Written exam, Written credit	

Subject name:		Veterinary pharmacy	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	pharmaceutical law in the field of manufacturing and marketing of veterinary medical products	A.W19
	W2	the concepts and definitions in the field of general pharmacy	A.W19
	W3	rules how to build a prescription, how to write prescription for authorised medicinal product and for magistral medicinal product. Student knows characteristics of individual forms of drugs, together with the method of their preparation.	A.W19, A.W20
	W4	the importance of European and national pharmacopoeia and differences between the pharmacopoeia monographs of substances and the list of authorized medicines	A.W19
	W5	the most important excipients substances used in pharmaceutical preparations	A.W19
Skills: (In terms of skills, the graduate can)	U1	write a prescription, and explain how to use prescribed drugs	A.U16, B.U10
	U2	determine the appropriate composition and pharmaceutical form of the prescribed drug to achieve the therapeutic goal	A.U16, B.U10
Social competences: (Within the scope of competence, the graduate is ready to)	K1	responsibly prescribe veterinary medicinal products.	KS.1
	K2	choose a medicine in the best interests of the patient	KS.2, KS.4
	K3	deepen the knowledge necessary for further education.	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:		Introduction to the basic concepts of general pharmacy. Discussion of applied pharmacy, with a particular focus on the prescription. A detailed description of the pharmaceutical forms of medicines used in veterinary medicine. Legal requirements for the manufacture, distribution, sale and control of medicines. Discuss the most important active substances in plant raw materials and excipients used in various pharmaceutical medications.	
Examination methods:		Written credit	

Subject name:		Advances in biomedical sciences - joint course	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	research the multidisciplinary topic and critically analyse acquired data.	A.W11, A.W13, A.W17, A.W18, A.W23, A.W4
	W2	present acquired data and discuss in understandable English.	C.W1
Skills: (In terms of skills, the graduate can)	U1	screen the scientific data for the current biomedical information.	A.U13, A.U15, A.U21, C.U2, C.U3
	U2	present and discuss multidisciplinary topic among his/her peers in understandable English.	A.U13, A.U15, A.U23, C.U1
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to monitor current medical literature to further enhance his personal knowledge and skills.	KS.4, KS.5, KS.6, KS.8
	K2	constant development of personal knowledge, skills and competences in the field of veterinary medicine.	KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Presentation, Assessment of activity during classes	

Subject name:		Experimental immunology	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the differences between immune cells subset and their function in inflammation process, tumour microenvironment and autoimmune diseases	B.W1
	W2	the principles and staining methods for flow cytometry analysis and basic techniques for immunological assessments	B.W1, B.W6
	W3	the methods of immune cells isolation, activation and culture in laboratory conditions	B.W1
Skills: (In terms of skills, the graduate can)	U1	explain the principles and requirements of immunological research studies	B.U6
	U2	analyse information from publicly available databases, especially scientific papers	B.U6
	U3	perform a simple staining of immune cells for flow cytometry analysis, count immune cells, handle immune cells in the laboratory condition	B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	evaluate and interpret the functioning of the immune cells in the context of antitumor immune response and inflammation	KS.4, KS.5
	K2	critically analyse scientific papers, present it and discuss it among his peers	KS.4, KS.7, KS.8, KS.9
	K3	uses scientific sources to expand and updates his knowledge	KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Test (written or computer based), Assessment of work in the laboratory, Presentation	

Subject name:		Veterinary gerontology	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	metabolic processes on the molecular, cellular, organ and organism level;	A.W1, A.W10, A.W4, A.W9
	W2	mechanisms of neurohormonal regulation, reproduction, ageing and death;	A.W9
	W3	mechanisms underlining animal health, disease and their therapy – from the cellular level, through organs, organism, herd to the whole population of animals;	A.W10
	W4	relationship between factors influencing homeostasis of biological processes and physiological, and pathological changes;	A.W11
	W5	laws governing intellectual property;	A.W23
Skills: (In terms of skills, the graduate can)	U1	describe changes in the function of the organism occurring upon alteration of homeostasis;	A.U4
	U2	define physiological status of the animal as an adaptive process to environmental variability;	A.U7
	U3	listen and explain in the language that is understandable and appropriate for the situation;	A.U13
	U4	operate in the interdisciplinary team;	A.U15
	U5	understand the need of continuous education for professional development;	A.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	formulate constructive criticism regarding cell functions with their relation to organs;	KS.1, KS.4, KS.5, KS.6, KS.7
	K2	evaluate physiological parameters of the cell;	KS.1, KS.4
	K3	conduct basic physiological experiments (scientific) and draw correct conclusions based on the observations;	KS.5
	K4	perform critical self-evaluation, formulate constructive criticism regarding veterinary practice, accept criticism regarding postulated solutions, factual respond to that criticism based on the current scientific knowledge;	KS.4, KS.7, KS.8, KS.9
	K5	communicate with co-workers and share the knowledge;	KS.3, KS.4, KS.7, KS.9
	K6	formulate opinions regarding various aspects of professional conduct;	KS.1, KS.4, KS.5, KS.6, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit, Presentation	

Subject name:		Primary cell cultures in veterinary research	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	primary cell culture techniques and understand its applications.	A.W1
Skills: (In terms of skills, the graduate can)	U1	conduct hands-on experiments and research using primary cell cultures.	A.U2
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use the primary cell cultures as an excellent research tool that can be used in veterinary research.	KS.1, KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit	

Subject name:		Diagnostic imaging of large animals	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the physical interactions used in common imaging methods.	B.W4, B.W6
	W2	the principles of preparing the patient for imaging under sedation and general anesthesia.	B.W4, B.W5
	W3	the safety rules and procedures during the ultrasound examination.	B.W4, B.W6
	W4	the safety rules and procedures during the X-ray examination including the rules of radiation protection and the use of contrast media.	B.W4, B.W6
	W5	the rules and safety procedures during endoscopic examinations.	B.W4, B.W6
Skills: (In terms of skills, the graduate can)	U1	conduct an interview and a clinical trial aimed at selecting or excluding the use of common imaging techniques.	B.U1, B.U2, B.U3
	U2	choose a common imaging technique for the clinical situation.	B.U7
	U3	prepare the patient for ultrasound, X-ray, and endoscopic examination.	B.U1, B.U11, B.U7
	U4	perform the ultrasound, X-ray, and endoscopic examination.	B.U1, B.U7
	U5	assess the results of the ultrasound, X-ray, CT, MRI, and endoscopic examination.	B.U7
	U6	use scientific sources in assessing the results of an imaging study.	B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	choose a modern common technique based on specialist knowledge.	KS.1, KS.2, KS.5
	K2	evaluation of his knowledge and the benefits of using common imaging techniques.	KS.1, KS.2, KS.4, KS.5
	K3	continue education and is ready to deepen his/her knowledge using scientific sources.	KS.4, KS.8
	K4	cooperate with a radiologist in the selection and evaluation of the results of imaging examinations.	KS.3, KS.5, KS.6, KS.7, KS.9
Course content ensuring the achievement of learning outcomes:		Common techniques of imaging physiological and pathological changes occurring in farm animals and horses, active participation in imaging tests performed using technical solutions commonly used in clinical diagnostics.	
Examination methods:		Test (written or computer based), Written credit	

Subject name:		Diagnostic imaging of small animals	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the physical interactions used in common imaging methods.	B.W4, B.W6
	W2	the principles of preparing the patient for imaging under sedation and general anesthesia.	B.W4, B.W5
	W3	the safety rules and procedures during the ultrasound examination.	B.W4, B.W6
	W4	the safety rules and procedures during the X-ray and CT examinations including the rules of radiation protection and the use of contrast media.	B.W4, B.W6
	W5	the safety rules and procedures during the MRI examination including the rules for the use of contrast media.	B.W4, B.W6
Skills: (In terms of skills, the graduate can)	U1	conduct an interview and a clinical trial aimed at selecting or excluding the use of common imaging techniques.	B.U1, B.U2, B.U3
	U2	choose a common imaging technique for the clinical situation.	B.U7
	U3	prepare the patient for ultrasound, X-ray, CT, and MRI examinations.	B.U1, B.U11, B.U7
	U4	conduct ultrasound, X-ray, CT, and MRI examinations.	B.U1, B.U7
	U5	assess the results of the ultrasound, X-ray, CT, and MRI examinations.	B.U7
	U6	use scientific sources in assessing the results of an imaging study.	B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	choose a modern common technique based on specialist knowledge.	KS.1, KS.2, KS.5
	K2	evaluation of his knowledge and the benefits of using common imaging techniques.	KS.1, KS.2, KS.4, KS.5
	K3	continue education and is ready to deepen his/her knowledge using scientific sources.	KS.4, KS.8
	K4	cooperate with a radiologist in the selection and evaluation of the results of imaging examinations.	KS.3, KS.5, KS.6, KS.7, KS.9
Course content ensuring the achievement of learning outcomes:		Conventional X-ray examinations, modern and advanced imaging techniques CT and MR of small animals, theoretically, basic concepts in physics, radiation protection, practical classes include the correct patient positioning for the examination, performing the appropriate x-ray and the final assessment of the obtained radiogram.	
Examination methods:		Test (written or computer based), Written credit	

Subject name:		Feed hygiene	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the principles of feed chain safety	B.W16, B.W17, B.W20
	W2	the correct hygiene conditions in feed production	B.W17, B.W20
	W3	the relevant legislation governing official veterinary inspection in feed sector	B.W21
	W4	the procedures related to HACCP— Hazard Analysis and Critical Control Points System	B.W18
	W5	the principles of feed law	B.W21
	W6	laboratory techniques for standard testing of feed quality	B.W6
	W7	the rules of feed sampling	B.W4
Skills: (In terms of skills, the graduate can)	U1	interpret the conditions in hygiene of feed, as well as feed safety,	B.U18
	U2	logically analyse appropriate legal acts regulating veterinary inspection over feed safety	B.U22, B.U25
	U3	creatively think about quality control systems and pest control in feed sector	B.U22
	U4	properly analyse and interpret the results of laboratory tests (quality of feed)	B.U18
Social competences: (Within the scope of competence, the graduate is ready to)	K1	cooperation with representatives of other professions in the field of feed hygiene and safety	KS.11
	K2	communication and cooperation with entrepreneurs in the feed production sector	KS.11, KS.5
	K3	search for actual sources of knowledge and lifelong learning	KS.4, KS.8
	K4	use food law acts	KS.4, KS.8
	K5	critical assessment of knowledge in the field of feed hygiene	KS.7
	K6	share own knowledge in the field of feed hygiene and to use the knowledge of others	KS.9
Course content ensuring the achievement of learning outcomes:		Hygienic aspects of feed production, feed quality and safety systems in the feed chain, feed law, sanitary and veterinary inspection principles (official veterinary control), test methods, and the hygienic assessment of feeds.	
Examination methods:		Written credit, Essay	

Subject name:		Meat Hygiene (2)	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the biology of infectious agents transmitted to people through food of animal origin (foodborne diseases), with particular emphasis on meat and meat products derived from slaughter animals, poultry, rabbits, wildlife (venison)	B.W1, B.W10, B.W17, B.W2, B.W3, B.W4, B.W7, B.W8
	W2	issues of recognizing infectious diseases (viral. bacterial, parasitological) of pigs, cattle, sheep, goats, horses, poultry, rabbits, wildlife along with the principles of sanitary-veterinary judgment, taking into account laboratory diagnostics. Knows and understands issues of Foreign Animal Diseases (FAD)	B.W1, B.W15, B.W16, B.W17, B.W18, B.W19, B.W2, B.W20, B.W21, B.W3, B.W4, B.W5, B.W6, B.W7, B.W8
	W3	basics of virological, bacteriological, parasitological diagnostic. Knows and understands serological, chromatographic and molecular diagnostic to prevent meat products fraudulent by recognizing and differentiating meat of different species (e. g. meat of different species content determination in meat products and meat- vegetable products).	B.W15, B.W16, B.W17, B.W18, B.W19, B.W20, B.W21, B.W4, B.W7, B.W8
	W4	principles of work in microbiological and molecular laboratories performing meat and meat products tests, taking into account their accreditation, rules of occupational health protection and safety management	B.W15, B.W16, B.W17, B.W18, B.W19, B.W20, B.W21, B.W4, B.W6, B.W8
Skills: (In terms of skills, the graduate can)	U1	conduct basic microbiological evaluation of meat and meat products and also choose appropriate serological, chromatographic methods to recognize meat species and determine different species meat content in meat products or meat-vegetable products	B.U17, B.U18, B.U22, B.U23, B.U6, B.U7, B.U8
	U2	do tests of meat to recognize Trichinella sp. infection (digestive method, compression method)	B.U17, B.U6, B.U7, B.U8
	U3	collect and safeguard the biological material, conduct basic laboratory analyses, properly evaluate and interpret results of laboratory analyses;	B.U17, B.U18, B.U23, B.U6, B.U7, B.U8
	U4	evaluate quality of meat and meat products	B.U17, B.U18, B.U23, B.U6, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	demonstrate responsibility for decisions taken on the basis of microbiological, serological, chromatographic and molecular investigations of meat and meat products, in the aspect of public health protection.	KS.1, KS.5, KS.6, KS.8, KS.9
	K2	formulate conclusions on the basis of meat and meat products laboratory tests results	KS.1, KS.5
	K3	cooperate with microbiologists, molecular biologists, food technologists to develop and improve laboratory diagnostic of food, with particular emphasis to meat and meat products , and to deepen knowledge and conduct continuing education	KS.11, KS.12, KS.2, KS.6
Course content ensuring the achievement of learning outcomes:		The aim is to prepare students to work as either an official veterinarian or a private practitioner within the scope of consumer veterinary health protection, according to the "from field to table" principle. Students learn and master in practice the methods of sanitary and veterinary examination of slaughter animals (cattle, pigs, horses, poultry, rabbits, nutria) as well as quarry and game; they practically master and perform methods of macroscopic, bacteriological, serological, parasitological, physicochemical and organoleptic examination of meat, as well as perform a sanitary and veterinary assessment of meat based on the above tests. Education aims to learn about veterinary legislation related to the sanitary and veterinary examination and assessment of slaughter animals and meat.	
Examination methods:		Written exam, Test (written or computer based)	

Subject name:		Pathomorphology (3)	ECTS: 8
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	theoretical knowledge in the field of general pathology of animals.	B.W1, B.W15, B.W3, B.W4
	W2	disorders at the level of cell, tissue, organ, system and organism in the course of the disease.	B.W1
	W3	causes and symptoms, describes and interprets anatomopathological changes.	B.W2, B.W3
	W4	how to collect, analyze and properly interpret clinical data and the results of laboratory and additional tests.	B.W4
	W5	the health and safety rules applicable during the autopsy of animals and work in the histopathological laboratory.	B.W4, B.W8
Skills: (In terms of skills, the graduate can)	U1	perform autopsies of animals.	B.U16, B.U6, B.U8
	U2	recognize the basic pathological processes in histopathological examination.	B.U7
	U3	collect tissue material for histopathological examination (sections of internal organs, pathological tissues removed during procedures, tissue bioptates) properly secure and properly send to the histopathological laboratory.	B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use the practically acquired knowledge and acquired skills.	KS.1, KS.10, KS.11, KS.2, KS.4, KS.5, KS.6, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		Methods of sample collection, handling and fixation. Results of microscopic examination - interpretation. Clinical pathology. Cytopathology of inflammation and neoplasia – selected examples. Pathology of: • female reproductive system: congenital disorders, non-inflammatory disorders, inflammation, neoplasia. • male reproductive system congenital disorders and alteration of spermatogenesis, inflammation and neoplasia. • endocrine system: pituitary gland, adrenal glands and pancreatic islets. Pathology of thyroid glands, parathyroid glands, chemoreceptor organ • skin: microscopic examination of the skin, congenital disorders, chemical and physical causes of dermal lesions, viral, bacterial, fungal, algal and parasitic skin diseases, immune mediated skin diseases, miscellaneous skin disorders, examples of cutaneous neoplasms. • musculoskeletal system - bones, esponses to injury, types of bone diseases, bone tumors. Muscle and joints: esponse to injury, types articular and muscle diseases. • nervous system – selected issues • eye and ear - selected issues Cytology of serosal cavities in cats – presentation of selected cases Introduction to forensic pathology/Pathology of newborns. Diagnostic autopsies (recognition pathological changes and interpretation of found abnormalities). Collection of cytopathological material, (smears, microscopic evaluation,cytopathological diagnosis).	
Examination methods:		Written exam, Assessment of activity during classes	

Subject name:		Feed insect diseases	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	anatomy and physiology of meal insects and basic rearing techniques	B.W11, B.W13, B.W20, B.W9
	W2	the symptoms which may indicate the presence of basic meal insect diseases	B.W1, B.W10, B.W2
	W3	the mechanisms of disease development and the rules of control and prevention of meal insect diseases	B.W1, B.W10, B.W2, B.W3, B.W4, B.W5, B.W9
Skills: (In terms of skills, the graduate can)	U1	collect samples for laboratory tests	B.U1, B.U2, B.U3, B.U6
	U2	pick proper diagnostic methods in recognizing meal insect diseases and implement proper diagnostic procedures	B.U1, B.U2, B.U3, B.U5, B.U7
	U3	pick proper diagnostic methods in recognizing meal insect diseases and implement proper diagnostic procedures. Student can implement proper meal insect disease control measures and instruct others how to implement them properly	B.U10, B.U13, B.U15, B.U16, B.U19, B.U21, B.U9
	U4	perform a clinical examination in a meal insect rearing facility	B.U1, B.U2, B.U3
	U5	recognize symptoms indicating basic meal insect diseases	B.U1, B.U3, B.U5
Social competences: (Within the scope of competence, the graduate is ready to)	K1	realize the role of hygenic measures in meal insect disease prevention	KS.1, KS.2, KS.3, KS.4, KS.5
	K2	realize the role of meal insects in securing inexpensive and sustainable food and feed sources	KS.2, KS.3, KS.4, KS.5, KS.6, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Test (written or computer based), Assessment of activity during classes	

Subject name:		Geriatric care of companion animals	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	causes, symptoms and physiological picture of the most common canine and feline geriatric disorders	B.W1
	W2	canine and feline geriatric behavior and understands the causes	B.W9
	W3	the latest recommendations for proper management of geriatric patients	B.W11, B.W13
Skills: (In terms of skills, the graduate can)	U1	recognize the most common canine and feline geriatric disorders and its physiology	B.U1, B.U15, B.U20, B.U5
	U2	categorize canine and feline geriatric behavior disorders	B.U1, B.U15, B.U20
	U3	propose the most efficient senior wellness plan to improve canine and feline geriatric welfare	B.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	plan proper recommendations for management of geriatric patients	KS.11, KS.5
	K2	take responsibility for his decisions concerning humans, animals and environment	KS.1
	K3	constantly update knowledge and skills for professional development, communicate with co-workers and share the knowledge	KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Assessment of activity during classes, Presentation	

Subject name:		Radiographic anatomy of dog and cat	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the nomenclature of anatomical structures, organs, and their descriptive parts in the radiological image.	A.W1, A.W2, A.W20, A.W3, B.W4
	W2	the terms determining body axes, directions, and position of anatomical structures, organs, and their descriptive parts on the radiological image.	A.W1, A.W2, A.W20, A.W3, B.W4
	W3	the basic radiological views and their application in clinical practice.	A.W1, A.W2, A.W3, B.W4
	W4	the species-specific, morphotypes, and racial differences of anatomical structures, organs, and their descriptive parts in the radiological image.	A.W1, A.W2, A.W3
Skills: (In terms of skills, the graduate can)	U1	arrange the radiological image for image evaluation.	A.U14, B.U7
	U2	recognize the anatomical structures, organs, and their descriptive parts visible in the radiological image.	A.U14, B.U7
	U3	name the anatomical structures, organs, and their descriptive parts visible in the radiological image.	A.U14, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use morphological knowledge in the process of animal health assessment.	KS.4, KS.5, KS.9
	K2	application of morphological knowledge in professional life.	KS.4, KS.5, KS.9
	K3	application of morphological knowledge in the critical analysis of radiological images.	KS.4, KS.5, KS.9
	K4	need for continuing education and is ready to deepen his/her knowledge using scientific sources.	KS.4, KS.5, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit	

Subject name:		Planning and monitoring of clinical tests	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	plan and monitor clinical trial, self and researcher responsibilities and obligations in light of the human and animal protection law and occupational health and safety regulations	A.W16, B.W5
Skills: (In terms of skills, the graduate can)	U1	appropriately interpret responsibility of the researcher/investigator towards experiments on animals humans. evaluate various stages of clinical trial performed on living animals and humans.	A.U12, A.U14, A.U15, B.U1, B.U3
Social competences: (Within the scope of competence, the graduate is ready to)	K1	critical evaluation of personal actions and actions of others in lieu of the animal humans protection law and occupational health and safety regulations.	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Oral credit	

Subject name:		Management of laboratory animal facility	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the applicable legislation on the protection of laboratory animals	B.W7
	W2	the ethical issues of conducting in vivo experiments	A.W22
	W3	the environmental and nutritional requirements of laboratory animals	B.W11, B.W13
	W4	the biology of the most important species of laboratory animals and the principles of their maintenance, and breeding	B.W11, B.W12, B.W13
	W5	the principles of biosecurity and providing hygienic and sanitary standards in the establishment	A.W13, B.W3
	W6	conditions for appropriate utilisation and disposal of animal waste from scientific experiments	B.W15
Skills: (In terms of skills, the graduate can)	U1	manage the laboratory animal facility emphasizing the health of the animals maintained in it	B.U1, B.U2, B.U5
	U2	prevent and monitor microbiological hazards	B.U25
	U3	collect biological samples to conduct microbiological monitoring	B.U6
	U4	implement the rules which provide proper animal welfare	A.U19, B.U20
Social competences: (Within the scope of competence, the graduate is ready to)	K1	manage animal facility personnel and organise work	KS.1, KS.2, KS.3, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit	

Subject name:		Farm animal diseases - infectious diseases	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	knowledge and understanding of epidemiological nomenclature	B.W6
	W2	the rules of conducting epidemiological investigation	B.W8
	W3	the mechanisms of infectious disease	B.W1, B.W2, B.W3
	W4	the routes of transmission of infectious diseases	B.W4, B.W5, B.W6, B.W8
	W5	the rules of treatment of infected animals	B.W4, B.W6
	W6	the rules of prevention of infectious diseases (general and specific)	B.W4, B.W9
	W7	the global and national databases containing information on the occurrence of infectious diseases subject to notification	B.W8
Skills: (In terms of skills, the graduate can)	U1	diagnose particular infectious disease of livestock	B.U2, B.U20, B.U6
	U2	plan and implement appropriate treatment of infectious diseases	B.U13, B.U19
	U3	plan and implement proper general and specific prevention of infectious diseases	B.U21
	U4	the ability to eradicate infectious diseases of farm animals	B.U1, B.U13, B.U19, B.U21
	U5	use scientific resources in solving clinical problems	B.U19, B.U2, B.U20
Social competences: (Within the scope of competence, the graduate is ready to)	K1	perform differential diagnosis of infectious diseases of farm animals	KS.1, KS.11, KS.2, KS.4, KS.5
	K2	eradicate infectious diseases in accordance with legal regulations	KS.1, KS.4
	K3	is aware of his/her knowledge, understands the necessity of consultancy and is prepared to share the competencies with the veterinary team and the animals' owner	KS.3, KS.7, KS.9
	K4	is aware of the necessity of constant education	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:		The course aims to teach students the definition, occurrence, effects of diseases, aetiology, pathogenesis, recognition, clinical symptoms, additional tests, differential diagnosis, pathological changes, complications, treatment, prognosis and prevention of internal diseases of farm animals. The program contains information about internal diseases of farm animals encountered in veterinary practice. The student will receive basic information on how to conduct environmental and disease anamnesis recognition, including the use of laboratory and imaging tests, and treatment and prevention of diseases.	
Examination methods:		Written exam, Written credit	

Subject name:		Farm animal diseases - internal diseases	ECTS: 5
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the pathomechanisms and clinical course of diseases	B.W1, B.W2, B.W3
	W2	the rules for conducting interviews and physical examination of animals	B.W5
	W3	the rules for treating diseases	B.W3
	W4	the principles of differential diagnosis of diseases	B.W4, B.W5, B.W6
	W5	the principles of disease monitoring based on clinical data and the results of laboratory and additional tests	B.W3, B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	get history taking about animal's disease and enviroment	B.U2, B.U20
	U2	safely conduct a veterinary medical examination of the animal	B.U1, B.U3, B.U5
	U3	coordinate and perform the appropriate detailed examination and additional tests based on the interview and general examination	B.U13, B.U2, B.U3, B.U5
	U4	carry out differential diagnostics	B.U6, B.U7
	U5	coordinate appropriate treatment with the patient - including pharmacotherapy, diet therapy	B.U6, B.U7
	U6	conduct medical and veterinary documentation	B.U3
	U7	collect material for additional tests and interpret the results obtained	B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	take responsibility for his actions and decisions	KS.1
	K2	presents an attitude consistent with veterinary deontology and the Veterinary Doctor's Code of Ethics	KS.2
	K3	is aware of the continuous development of science and is ready to expand and update knowledge	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:		The course aims to teach students the definition, occurrence, effects of diseases, aetiology, pathogenesis, recognition, clinical symptoms, additional tests, differential diagnosis, pathological changes, complications, treatment, prognosis and prevention of internal diseases of farm animals. The program contains information about internal diseases of farm animals encountered in veterinary practice. The student will receive basic information on how to conduct environmental and disease anamnesis recognition, including the use of laboratory and imaging tests, and treatment and prevention of diseases.	
Examination methods:		Written exam, Oral credit, Assessment of activity during classes	

Subject name:		Farm animal diseases - reproduction	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	farm animals' reproductive physiology and main hormonal regulation regarding reproduction	B.W1, B.W12, B.W2, B.W3, B.W4, B.W5, B.W6
	W2	dignostic options and treatment metods used for farm animals repro tract	B.W1, B.W12, B.W3, B.W4, B.W5, B.W6
	W3	proper methods of selected reproductive tract disease examination	B.W1, B.W12, B.W3, B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	executes anamnesis with the aim of gathering detailed information about single animal, stud and their environment,	B.U21, B.U3, B.U7
	U2	proceed general and systemic clinical examination regarding the reproductive system, both manually and with the of use appropriate additional methods e.g. instruments and utensils,	B.U13, B.U3, B.U7
	U3	used additional metodes in clinical examination i.e. USG	B.U13, B.U3, B.U7
	U4	proper methods for pregnancy diagnosis and its stages	B.U13, B.U3, B.U7
	U5	proper metods for assesment of repro trackt during puerperal period, diagnose problems and propose its teatment	B.U13, B.U3, B.U7
	U6	proper methods and instruments to examine, diagnose and treat the mammary gland	B.U13, B.U3, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to work as the team member	KS.2, KS.3, KS.6, KS.7, KS.9
	K2	to communicate with animal owner	KS.2, KS.3, KS.6
	K3	update knowledge and ethics norm due to codex	KS.12, KS.2, KS.4, KS.8
	K4	critically evaluate knowledge and use scientific sources to supplement it	KS.2, KS.3, KS.4, KS.6, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		The program includes lectures and practical exercises in farm animal reproduction. During the course, students gain knowledge and practical abilities in propaedeutics and reproduction physiology, farm animal obstetrics, gynaecology, mammary gland diseases and herd health programs.	
Examination methods:		Written exam, Assessment of activity during classes, Written credit	

Subject name:		Farm animal diseases - surgery	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the etiology, pathogenesis and diagnostic techniques and treatment of the livestock diseases that require surgical intervention;	B.W1, B.W2, B.W3, B.W4, B.W5
	W2	disorders at the level of the cell, tissue, organ, system, and organism in the course of the disease	B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	diagnose of the most popular diseases of livestock, that require surgical intervention.	B.U3
	U2	to treat diseases of the stomach and fingers of cattle.	B.U1
	U3	is able to castrate farm animals	B.U11
	U4	choose the appropriate method of treatment	B.U2, B.U3, B.U7
	U5	perform claw trimming together with veterinary intervention in the case of claw diseases, including the implementation of pharmacological treatment and treatment methods	B.U10, B.U11, B.U13
Social competences: (Within the scope of competence, the graduate is ready to)	K1	organizing work in field conditions	KS.10
	K2	communicating with other employees	KS.9
	K3	critically assess the scope of their knowledge and skills and share their competencies with others	KS.1, KS.5
	K4	analyzing scientific literature in the field of livestock surgery and critically evaluating it	KS.1, KS.8
Course content ensuring the achievement of learning outcomes:		Aetiology, diagnostics and treatment of livestock diseases that require surgical intervention. Students will acquire the skills of diagnostics and treatment methods in farm animal surgery.	
Examination methods:		Written exam	

Subject name:		Advanced imaging techniques	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the physical interactions used in modern imaging methods;	B.W4, B.W6
	W2	the principles of preparing the patient for imaging studies under general anesthesia	B.W4, B.W5
	W3	the principles and safety procedures during the CT examination, including the use of contrast agents	B.W4, B.W5
	W4	the rules and procedures of safety during the MRI examination, including the use of contrast agents;	B.W4, B.W5
	W5	the rules and procedures of safety during the PET/MR examination, including the use of contrast agents and radioactive isotopes;	B.W4, B.W6
	W6	the rules and safety procedures during angiographic, endoscopic and ultrasound examinations;	B.W4, B.W6
Skills: (In terms of skills, the graduate can)	U1	conduct an interview and a clinical examination focused on the selection or exclusion of the use of modern imaging techniques;	B.U1, B.U2, B.U3
	U2	choose a modern imaging technique to the clinical situation;	B.U7
	U3	prepare the patient for CT, MRI, PET/MR examinations;	B.U7
	U4	evaluate the basic results of CT, MRI, PET/MR examinations;	B.U20
Social competences: (Within the scope of competence, the graduate is ready to)	K1	choose a modern imaging technique based on specialist knowledge;	KS.1, KS.2, KS.5
	K2	evaluation of his knowledge and the benefits of using modern imaging techniques;	KS.4, KS.8
	K3	lifelong learning and is ready to deepen his knowledge using scientific sources;	KS.3, KS.5, KS.6, KS.7, KS.9
Course content ensuring the achievement of learning outcomes:		Modern techniques for imaging physiological and pathological changes occurring in the body of companion animals, horses and experimental animals; clinical applications of CT, DE CT, MRI, DWI MRI, MRg-FUS, PET-MR and the highest class of angiography, endoscopy and ultrasound.	
Examination methods:		Written credit	

Subject name:		Andrology and artificial insemination	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	Rules principles and techniques of artificial insemination in selected animal species	B.W12, B.W5, B.W6
	W2	Rules of cryopreservation of male semen of different species.	B.W12, B.W5
	W3	Criteria for the selection of donors and recipients of embryos.	B.W12
	W4	Rules of diagnosis, treatment and prevention of diseases of the male reproductive system.	B.W1, B.W2, B.W4
	W5	Selected techniques of assisted reproduction in animals	B.W12
	W6	Relevant legal acts regulating animal husbandry	B.W11, B.W12, B.W7
Skills: (In terms of skills, the graduate can)	U1	The student is able to conduct the subject clinical examination of the male, with particular emphasis on its suitability as a sire.	B.U1, B.U2, B.U20, B.U21, B.U3, B.U6
	U2	The student is able to independently collect semen after preparing the appropriate instrumentation.	B.U1, B.U6
	U3	The student is able to operate the program with which he performs the analysis of the collected semen	B.U6
	U4	The student is able to carry out the procedure of artificial insemination in cows, mares, female dogs and sows	B.U1, B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	Working in a team, acting in accordance with the code of ethics and veterinary deontology in relation toto owners and their pets.	KS.1, KS.10, KS.11, KS.2, KS.3, KS.4, KS.5, KS.7, KS.8, KS.9
	K2	Provide insemination services to livestock owners by contributing to increase the number of animals and, consequently, the quantity and quality of food products of animal origin.	KS.1, KS.11
Course content ensuring the achievement of learning outcomes:		The aim of the course is to acquaint students with basics of andrology and artificial insemination of farm and companion animals. The program includes subjects on veterinary clinical andrology for the treatment of male infertility diseases. In addition, program includes basic knowledge on different techniques of reproductive biotechnology, such as: sperm assessment and preparation for use in assisted reproduction techniques, artificial insemination, embryo transfer, gamete and embryo micromanipulation, and gamete and embryo cryopreservation. Students will receive most recent and evidence- based knowledge in the field, concerning functional anatomy and physiopathology of male reproductive system, endocrine control of testicular function, spermatogenesis and its control, male sexual behaviour, semen analysis, semen preservation, pharmacological control of male and female reproductive function.	
Examination methods:		Written credit, Practical exam	

Subject name:		Ethical aspects of veterinary practice	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the Code of Ethics of Veterinary Surgeons	A.W22
Skills: (In terms of skills, the graduate can)	U1	undertake professional activities following the principles of professional ethics.	A.U12, A.U16, A.U21
	U2	recognise the essential areas of professional responsibility and understands the various implications and dependencies of veterinary practice.	A.U16, A.U19, A.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	value and make choices in ethically challenging situations and justify their opinions.	KS.1, KS.12, KS.2, KS.6, KS.8
	K2	assess the veterinarian's conduct from an ethical perspective.	KS.1, KS.12, KS.2, KS.7
Course content ensuring the achievement of learning outcomes:		Social, personal and professional ethics, moral reasoning and ethical decision making, veterinarians and animal welfare, areas of professional responsibility of a veterinarian: confidentiality, informed consent in veterinary practice and others. Ethical dilemmas, mistakes and possibilities of avoiding.	
Examination methods:		Test (written or computer based)	

Subject name:		Fish diseases	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the anatomy and topography of different species of fish	B.W1, B.W2, B.W3
	W2	the immunology and prevention of fish diseases	B.W10, B.W13, B.W15
	W3	the rules of treatment fish diseases	B.W13, B.W17, B.W4
	W4	the major diseases in fish and principles of disease prevention	B.W10, B.W13, B.W3
Skills: (In terms of skills, the graduate can)	U1	perform clinical examination and basic laboratory tests in fish	B.U1, B.U11, B.U3, B.U6, B.U8
	U2	perform necropsy of different species of fish and can interpret of results	B.U6, B.U8
	U3	diagnose the most common contagious and metabolic diseases in fish	B.U10, B.U6, B.U8
	U4	take right samples for laboratory tests and interpret results of these tests	B.U2, B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	collaborate with specialists for the protection of public health and healthy food	KS.11
	K2	take responsibility for decisions concerning human and animal health and environment	KS.1
Course content ensuring the achievement of learning outcomes:		Student learns about basic issues of fish anatomy, immunology, correct diagnosis of fish diseases based on the clinical, pathological examinations and laboratory tests. During the course a student should acquire the theoretical knowledge and practical skills necessary to diagnose and treat diseases in fish. Student acquires both basic and detailed information and knowledge in the field of fish production based on traditional and intensive culture (aquaculture).	
Examination methods:		Test (written or computer based), Assessment of activity during classes	

Subject name:		Safety of food of animal origin (1)	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the flow diagrams and hazards occurring in cutting plants and meat processing plants	B.W18
	W2	legal provisions relating to cutting plants and meat processing plants	B.W21
	W3	knows the categories of animal by-products and the rules for its management	B.W15
	W4	the principles of HACCP system	B.W18
	W5	the methods of food preservation	B.W20
Skills: (In terms of skills, the graduate can)	U1	verify the implementation of prerequisites and procedures based on HACCP principles	B.U22
	U2	carry out the sensory analysis and organoleptic assesment of food samples	B.U18
Social competences: (Within the scope of competence, the graduate is ready to)	K1	work in an interdisciplinary team	KS.9
	K2	carry out his/her work in an ethical and socially responsible manner	KS.2
	K3	deepen knowledge and its critical analysis	KS.8
Course content ensuring the achievement of learning outcomes:		Good practices in food of animal origin' processing; hazards analysis and critical points in the cutting plant and the processing plant; food quality and safety assurance systems; food law regulations; principles of veterinary supervision; methods of examining and evaluating raw materials and finished products of animal origin; risk assessment; organoleptic assessment and sensory analysis; technology basics in processing cured meats and edible fats.	
Examination methods:		Written credit, Assessment of activity during classes, Presentation	

Subject name:		Summer practice_Clinical practice (1)	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the elements of gathering the medical data.	B.W5, B.W6, B.W9
	W2	the interview protocol with the animal owner.	B.W11, B.W5, B.W6, B.W9
	W3	the basic diagnostic algorithms.	B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	perform a physical examination of a patient.	B.U2, B.U3, B.U6, B.U7
	U2	create a treatment plan for the patient and give recommendations to the owner	B.U10, B.U2, B.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	discuss with the owner the plan of the treatment.	KS.1, KS.4, KS.5, KS.9
	K2	discuss future steps and recommendations with the patient owner	KS.1, KS.10, KS.2, KS.4, KS.5, KS.9
Course content ensuring the achievement of learning outcomes:		The aim of the clinical (summer) practice is to conduct clinical training in approved veterinary entities. Student does the summer practice in voluntary chosen veterinary clinic in the fields (- according to the one's preferences e.g. horse clinic, zoo clinic, mixed practice clinic, etc). During the practice, student is obliged to implement knowledge achieved, but all activities can be only done under the supervisor's inspection. Student is obliged to study, analyse and perform all activities concerning various aspects of veterinary practice in the fields. During the practice student should follow the GVP rules, veterinary law and must respect internal regimens of particular veterinary entity, where the practice is being organised. During the practice student should procced interview with animal's owner, pre-prepare animal for the physical examination, assist veterinarian during conducted treatment procedures. Student should also train sampling (swabs, blood, urine, skin scrapings, etc.). According to the procedures student should be involved in all activities concerning particular patients. Subsequently, student should make individual records of these cases.	
Examination methods:		Oral exam	

Subject name:		Toxicology	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	basic toxicological definitions and dependences	A.W10, A.W11, B.W1
	W2	toxicokinetics and toxicodynamics principles	A.W10, A.W11, B.W1, B.W2, B.W3
	W3	the most frequent poisonings in different animal species, including their causes, clinical signs and pathomorhological manifestations	A.W21, B.W1, B.W2, B.W3
	W4	the principles of diagnostics and therapy of acute and chronic poisonings, including the knowledge on antidotes and rules of their applications	A.W16, A.W21, B.W4
Skills: (In terms of skills, the graduate can)	U1	collect toxicological data, including environmental aspects	A.U12, A.U13, B.U2
	U2	select biological material for toxicological analysis and prepare it for laboratory delivery	B.U23, B.U6
	U3	perform basic toxicological analysis and based on their interpretation conduct risk assessment	A.U17, A.U2, B.U22, B.U6
	U4	design most suitable therapeutical protocol in acute and chronic poisoning	B.U13
	U5	to elaborate a problem related to chemical impact on animal health and discuss it	A.U13, A.U15
Social competences: (Within the scope of competence, the graduate is ready to)	K1	make its mind in a situation of chemical hazard (decide about therapy protocols for affected animals and personal protective equipment for individuals involved)	KS.1, KS.10, KS.5
	K2	perform risk assessment resulting from exposure to chemical (risk for individual animal, group of animals and human health) and prevent such exposure	KS.1, KS.5
	K3	analyze original literature	KS.4, KS.5
	K4	collaborate with other specialists to protect public health in regards to chemical risk	KS.11, KS.9
Course content ensuring the achievement of learning outcomes:		Basic information in the field of veterinary toxicology, including prevention, diagnostics and treatment of animals' poisonings; risk assessment for animals, human and environment which results from environmental contamination, and eventually the knowledge how to react quickly and suitably to the possible emergencies and how to prevent them.	
Examination methods:		Written exam	

Subject name:		Veterinary jurisprudence	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the legal and ethical provisions governing the exercise of the veterinary surgeon profession.	B.W7
	W2	the procedure for the professional responsibility of the veterinarian.	B.W7
Skills: (In terms of skills, the graduate can)	U1	assess the veterinarian's compliance with the profession's rules.	B.U20
	U2	recognize and constructs the essential elements of a judicial opinion.	B.U20
Social competences: (Within the scope of competence, the graduate is ready to)	K1	look for current sources of knowledge and continuing education.	KS.12, KS.6
	K2	work in a team.	KS.12, KS.6
	K3	present an attitude consistent with the principles of ethics and the rule of law.	KS.12, KS.6
	K4	show responsibility for the decisions made towards people, animals and the environment.	KS.12, KS.6
Course content ensuring the achievement of learning outcomes:		Right after graduation from the Faculty of Veterinary Medicine, a veterinarian can start to exercise his or her learned profession on his or her own. Therefore, it is necessary for the graduate to have basic knowledge about the principles of the veterinary profession, limitations in its performance and legal liability associated with the performance of medical and veterinary activities. During the course, students will gain knowledge about the sources of professional, civil and criminal liability of vets. They will become aware of the rules of performing the profession and providing veterinary services and the rules of formulating opinions.	
Examination methods:		Test (written or computer based), Presentation, Report	

Subject name:		Zoonoses	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	biology of infectious agents inducing zoonoses, including mechanisms of disease transmission and organism defence systems	B.W1, B.W2
	W2	causes and symptoms of zoonoses in animals and humans, patomorphological changes as a consequences of zoonoses in animals and humans, procedures of therapy and prevention in the particular zoonoses in animals and humans	B.W10, B.W16, B.W3, B.W4, B.W5, B.W8
	W3	diagnostic (including differential diagnostics) and therapeutic procedures of zoonoses in animals and humans	B.W3, B.W4, B.W5
	W4	rules of clinical evaluation and animal health monitoring, taking into account suspicion of zoonosis	B.W5
	W5	appropriate law regulations, rules governing issuing of the verdicts and official opinions for the law courts, state, local and veterinary administrations in relation to zoonoses	B.W7, B.W8
	W6	conditions for appropriate utilisation and disposal of animal by-products and management of waste from animal production, that are possible sources of zoonoses	B.W15
	W7	functioning of the State Veterinary Service and State Sanitary Inspection, also in the aspects of the control and eradication of zoonoses	B.W16
	W8	rules of consumers health protection by the appropriate organ responsible for the production of foods of animal origin	B.W17
	W9	occupational health and safety regulations in veterinary practice	B.W7
Skills: (In terms of skills, the graduate can)	U1	select and implement rational, direct and conceptual antimicrobial (zoonotic agent) therapy regarding target animal species zoonoses	B.U10, B.U13, B.U8
	U2	plan anamnesis in order to acquire precise information on animal or group of animals (heard), and their environment, taking into account aspects of zoonoses detection.	B.U10, B.U8
	U3	plan activity in the interdisciplinary team , in relation to the problem of zoonoses, especially regarding cooperation with doctors and sanitary inspectors	B.U13, B.U8
	U4	appropriately interpret responsibility of the veterinary surgeon towards animal, its owner, society and environment , taking into account problem of zoonoses in animals and humans	B.U8
	U5	choose for professional advice and help proper specialists or specialised units in difficult cases, taking into account zoonoses	B.U8
	U6	analyse the accuracy of epizootic procedures in cases of the law-regulated diseases, taking into account zoonoses	B.U8
	U7	plan epizootic and epidemiologic investigation in suspicious cases to be zoonoses	B.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	take responsibility for his decisions concerning humans, animals and environment	KS.1

	K2	utilise unbiased sources of information about zoonoses, with particular emphasis on emerging and re-emerging	KS.1, KS.4, KS.5, KS.6, KS.8
	K3	constantly update knowledge and skills for professional development	KS.8
	K4	communicate with co-workers and share the knowledge in the field of zoonoses eradication	KS.11, KS.9
	K5	collaborate with specialists of the other professions for the protection of public health	KS.11
Course content ensuring the achievement of learning outcomes:		Aetiology, symptoms, clinical and laboratory diagnosis and the non-specific and specific prevention , the methods of eradication and control of zoonoses (parasitic, viral, prion, bacterial, fungal, emerging - emerging zoonoses), legal aspects of these issues and relate to the functioning of the public health system.	
Examination methods:		Written credit	

Subject name:		Equine diseases - infectious diseases	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	epidemiological nomenclature	B.W1, B.W10, B.W2, B.W3, B.W4, B.W6, B.W7, B.W8, B.W9
	W2	disease control and management	B.W15, B.W16, B.W22, B.W4, B.W5, B.W6, B.W7, B.W8, B.W9
	W3	pathogenesis of infectious diseases	B.W1, B.W2, B.W3, B.W4
	W4	diseases transmissions	B.W16, B.W22, B.W5, B.W6, B.W7, B.W8, B.W9
	W5	pharmacotherapy of infectious diseases	B.W1, B.W10, B.W2, B.W3, B.W4, B.W5, B.W6, B.W7, B.W9
	W6	immunoprophylaxis of infectious diseases	B.W1, B.W16, B.W2, B.W22, B.W3, B.W4, B.W5, B.W6, B.W8, B.W9
Skills: (In terms of skills, the graduate can)	U1	diagnose of equine infectous diseases	B.U1, B.U10, B.U13, B.U15, B.U16, B.U19, B.U2, B.U20, B.U21, B.U25, B.U3, B.U5, B.U6, B.U7, B.U8, B.U9
	U2	plan and carry out the appropriate treatment	B.U1, B.U13, B.U2, B.U20, B.U25, B.U3, B.U4, B.U6, B.U8
	U3	plan and introduce proper prophylaxis and immunoprophylaxis	B.U1, B.U13, B.U20, B.U21, B.U25, B.U8
	U4	disease control and management	B.U1, B.U10, B.U13, B.U15, B.U16, B.U19, B.U2, B.U20, B.U21, B.U25, B.U3, B.U5, B.U6, B.U8
	U5	use of scientific sources to solve clinical problems	B.U19, B.U25, B.U6, B.U7, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	diagnosis of equine infectious diseases and undertaking proper procedures	KS.1, KS.10, KS.11, KS.12, KS.2, KS.3, KS.4, KS.5, KS.6, KS.7, KS.8
	K2	disease control and management according to the low regulations	KS.1, KS.10, KS.11, KS.12, KS.2, KS.3, KS.4, KS.5, KS.6, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		Course objectives - students acquire theoretical knowledge necessary: • to understand pathogenesis, epidemiology, symptomatology, diagnosis, differential diagnosis and prevention of equine infectious diseases: bacterial, viral, parasitic and fungal. • to understand biosecurity rules, diseases control and management protocols Students acquire the ability to use epidemiological skills and diagnose, treat and prevent infectious diseases of horses.	

Examination methods:	Written exam

Subject name:		Equine diseases - internal diseases	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	pathomechanisms and clinical course of diseases	B.W2, B.W3, B.W4, B.W7
	W2	the rules for conducting interviews and physical examination of animals	B.W5
	W3	the rules for treating and prevention diseases	B.W3, B.W4, B.W7
	W4	the principles of differential diagnosis of diseases	B.W3, B.W4, B.W5, B.W6
	W5	the principles of disease monitoring based on clinical data and the results of laboratory and additional tests	B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	get history taking about animal's disease	B.U1, B.U2, B.U5
	U2	safely conduct a veterinary medical examination of the animal	B.U3, B.U5
	U3	coordinate and perform the appropriate detailed examination and additional tests based on the interview and general examination	B.U2, B.U3, B.U5, B.U6, B.U7
	U4	conduct medical and veterinary documentation	B.U3
	U5	collect material for additional tests and interpret the results obtained	B.U3
Social competences: (Within the scope of competence, the graduate is ready to)	K1	take responsibility for his actions and decisions	KS.1
	K2	presents an attitude consistent with veterinary deontology and the Veterinary Doctor's Code of Ethics	KS.2
	K3	continuous development of science and is ready to expand and update knowledge	KS.4, KS.5, KS.6, KS.7, KS.8
Course content ensuring the achievement of learning outcomes:		The aim and purpose of the course is to teach students the definition, occurrence, effects of diseases, aetiology, pathogenesis, recognition, clinical symptoms, additional tests, differential diagnosis, pathological changes, complications, treatment, prognosis and prevention of internal diseases of horses. The program contains information about internal diseases of horses, encountered in veterinary practice. The student will receive basic information on how to conduct environmental and disease anamnesis, recognition, including the use of laboratory and imaging tests, treatment and prevention of diseases.	
Examination methods:		Written exam, Oral credit, Assessment of activity during classes	

Subject name:		Equine diseases - reproduction	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the details of equine repro in comparision to the other species	B.W1, B.W2, B.W3
	W2	the basics of diagnosis and treatment of equine reproductive system diseases	B.W4, B.W5
	W3	the rules and techniques for handling, incapacitating animals and examining in a safe way for the examining and tested animal	B.W11, B.W4, B.W5, B.W6, B.W9
	W4	the principles of pregnancy, delivery and the postpartum period	B.W11, B.W4, B.W5, B.W6, B.W9
Skills: (In terms of skills, the graduate can)	U1	carry out a veterinary-medical interview to obtain information about a patient or group of animals, about his or their living environment	B.U1, B.U2
	U2	conduct a general and detailed clinical examination of the reproductive system	B.U2, B.U3, B.U4, B.U5
	U3	assess the condition of the reproductive system in the perinatal period and determine the appropriate therapeutic management	B.U1, B.U11, B.U13, B.U2, B.U3, B.U4
	U4	select and use pharmacological and surgical methods of treatment of diseases of the reproductive system of mares	B.U13, B.U4, B.U5, B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	for communication with the animal carer and owner	KS.1, KS.2, KS.3, KS.6
	K2	for planning and conducting treatment of reproductive organs diseases	KS.4, KS.5, KS.6, KS.7
	K3	to update knowledge and act in accordance with the principles of professional ethics	KS.1, KS.2, KS.3, KS.4, KS.7, KS.8
	K4	for a critical assessment of knowledge and the use of scientific sources to supplement it	KS.4, KS.7, KS.8
	K5	to share knowledge and competences with others	KS.10, KS.11, KS.9
	K6	to work as team member	KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		Program includes lectures and practical exercises in equine reproduction in comparison to other farm animals species. During the course students gain knowledge and practical abilities in propaedeutics and equine reproduction physiology, equine obstetrics and gynaecology, fertility disorders and mammary gland infections in mares.	
Examination methods:		Written exam, Written credit, Assessment of activity during classes	

Subject name:		Equine diseases - surgery	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	has knowledge of the etiopathogenesis, diagnosis, and treatment of equine diseases that require surgical treatment	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6
	W2	rules for conducting a medical and veterinary interview, safe handling of the horse, conducting a general and detailed clinical examination, both manual and with the use of appropriate additional methods	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	conduct a medical and veterinary interview, conduct a general and detailed clinical examination	B.U2, B.U3
	U2	treat the wound properly, castrate the stallions	B.U1, B.U2, B.U3, B.U6
	U3	is able to recognize and treat diseases requiring surgical treatment	B.U1, B.U2, B.U3, B.U4
Social competences: (Within the scope of competence, the graduate is ready to)	K1	organization of work in field conditions	KS.1, KS.2, KS.3, KS.4, KS.5
	K2	communicating with other employees	KS.1, KS.2, KS.3, KS.4, KS.5
	K3	to critically assess the scope of their knowledge and skills and to share their competences with others	KS.4, KS.5
	K4	analizowania literatury naukowej z zakresu chirurgii koni i krytycznej jej oceny	KS.10, KS.5, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		Aetiology and pathogenesis of equine diseases requiring surgical treatment, clinical method of putting the surgical patients the initial diagnosis and treatments.	
Examination methods:		Written exam, Project, Report	

Subject name:		Clinical haematology	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	basics of hematology diagnostic algorithms.	B.W1, B.W4
	W2	proposes a transfusion protocol.	B.W4
Skills: (In terms of skills, the graduate can)	U1	perform the hematological examination.	B.U12, B.U2, B.U3
	U2	interpret blood and urine analysis as well as US, X-ray results.	B.U2, B.U6
	U3	diagnose the blood disorder in given case and propose the treatment.	B.U10, B.U13, B.U2, B.U6, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	discuss the DDx in a larger group of students.	KS.2, KS.4, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Test (written or computer based)	

Subject name:		Clinical immunology	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the normal and abnormal immune mechanisms.	B.W2
	W2	the symptoms of immune mediated diseases and other diseases with similar clinical appearance.	B.W3, B.W4
	W3	mechanisms and hypersensitivity type I - IV diseases and autoimmune diseases.	B.W2, B.W3
	W4	protocols of therapeutic procedure in immunological diseases, mechanisms of action of used medicines and interactions between them.	B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	describe the mechanisms of immune mediated diseases comprehensively enough for effective communication with other members of veterinary team and the animal’s owner.	B.U1, B.U2
	U2	plan the diagnostic procedures (including differential diagnosis) in the diseases that manifest by symptoms that may suggest immune mediated disorder.	B.U6
	U3	plan and monitor the appropriate therapeutic treatment to be taken in case of immune mediated diseases.	B.U13, B.U9
	U4	use the scientific sources as a help in clinical issues.	B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	formulate responsible clinical decisions based primarily on the animal welfare first.	KS.1
	K2	exchange of views and is ready to share his competences with members of the veterinary team and animal's owners.	KS.7, KS.9
	K3	the necessity of continuing education using scientific sources.	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Test (written or computer based)	

Subject name:		Food safety management	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the FSMS' control strategies; knows and understands the relationship between public and private law	B.W16, B.W18, B.W21
Skills: (In terms of skills, the graduate can)	U1	competent to carry out an official audit of the HACCP principles	A.U15, A.U23, B.U22, B.U25
Social competences: (Within the scope of competence, the graduate is ready to)	K1	communicate with FBOs and official control bodies in an open and solution-oriented manner guided by the veterinarian's code of ethics	KS.1, KS.10, KS.11, KS.2, KS.3, KS.9
Course content ensuring the achievement of learning outcomes:		An integrated approach across prerequisite programmes and procedures based on HACCP principles. Food defence plan. Food safety epidemiology. Principles of implementing a food safety management system (field trip). Techniques for auditing quality systems (practical exercises).	
Examination methods:		Assessment of speeches during classes, Assessment of activity during classes, Case	

Subject name:		Clinical virology	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how to interpret clinical data and cases.	B.W1, B.W4, B.W5, B.W6
	W2	appropriate diagnostic procedure in the case of chosen viral diseases.	B.W4, B.W5
Skills: (In terms of skills, the graduate can)	U1	choose proper diagnostic method and analyse of the results of diagnostic tests used in virology.	B.U6
	U2	use available sources of information.	B.U19, B.U20
	U3	perform his own analyses, interpret results and draw conclusions.	B.U3
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Assessment of speeches during classes, Assessment of activity during classes	

Subject name:		Summer practice in Veterinary Inspection - slaughterhouse	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the principles of functioning of the Veterinary Inspection, especially in the aspect of public health protection	B.W16, B.W7, B.W8, B.W9
	W2	veterinary legislation related to the examination of slaughter animals and sanitary-veterinary assessment of slaughter animals and meat	B.W1, B.W15, B.W16, B.W17, B.W18, B.W19, B.W2, B.W3, B.W4, B.W5, B.W8, B.W9
	W3	the principles of consumer health protection ensured by proper supervision over the production of foodstuffs of animal origin, with particular emphasis on the Meat Hygiene field	B.W17
	W4	aims and objectives of ante – and post-mortem examination of slaughter animals, proceedings after delivery of animals to the slaughterhouse (Food Chain Information) and ensuring animal welfare	B.W19, B.W9
	W5	requirements for slaughterhouses resulting from the system HACCP, taking into account utilization and environmental protection	B.W15, B.W18
	W6	veterinary supervision over collection centres for slaughter animals, places to spend slaughter animals and transport	B.W16, B.W17, B.W5, B.W7, B.W8, B.W9
	W7	the principles of occupational health and safety in veterinary activities, with particular emphasis on veterinary activity in slaughterhouses	B.W16, B.W3, B.W7
Skills: (In terms of skills, the graduate can)	U1	properly deal with animals and instruct other people in this regard	B.U1
	U2	take appropriate action in the event of suspicion and confirmation of a registered infection diseases	B.U8
	U3	conduct ante-mortem and post-mortem examination of animals	B.U17
	U4	assess the fulfilment of the requirements for the welfare of slaughter animals at the slaughter stage, taking into account various methods of slaughter	B.U24
Social competences: (Within the scope of competence, the graduate is ready to)	K1	take responsibility for decisions made regarding the protection of public health, animals and the natural environment	KS.1
	K2	act in accordance with the principles of veterinary ethics and deontology and is tolerant towards other people	KS.2
	K3	actively participate in solving conflict situations;	KS.3
	K4	cooperate with other professional groups in the field of broadly understood public health protection;	KS.11
Course content ensuring the achievement of learning outcomes:		Methods of sanitary inspection of slaughter animals (cattle, domestic swine, horses, poultry, sheep, goats, lagomorphs, wild game) and the meat derived, the meat inspection when diseases and meat quality deviation had been detected, the responsibilities within the veterinary inspection of animal markets, transport and slaughterhouses performed by Veterinary Inspectorate or by a designated veterinary professional, the operating veterinary legislation concerning the examination and sanitary inspection of slaughter animals and meat.	
Examination methods:		Written exam, Oral exam	

Subject name:		Administration and legal aspects in veterinary	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the structure of veterinary administration	B.W16, B.W21, B.W8
	W2	the basic principles of administrative procedure	B.W16, B.W21, B.W8
	W3	the fundamental issues of food law, animal health protection, animal protection and animal welfare	B.W16, B.W21, B.W8
Skills: (In terms of skills, the graduate can)	U1	recognise the structures of public administration	B.U8
	U2	research, compare, analyse, and interpret acts and laws	B.U8
	U3	prepare basic documents on the activities of the veterinary administration	B.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	collaborate with other professionals in the field of public health and cooperate with actors of the agro-food chain	KS.11, KS.5
	K2	seek up-to-date sources of knowledge and continuing education	KS.11, KS.5
Course content ensuring the achievement of learning outcomes:		Principles and requirements of food law, animal health law and animal welfare law. Administrative procedures for official controls in the agri-food chain.	
Examination methods:		Test (written or computer based), Report, Presentation	

Subject name:		Avian diseases	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	basic anatomy, embryology, and topographic anatomy of farm- and pet- birds	B.W1
	W2	physiology and pathophysiology of farm- and pet- birds	B.W1, B.W2
	W3	pathomorphology of farm- and pet- birds	B.W1, B.W2, B.W3
	W4	avian infectious and non-infectious diseases	B.W17, B.W3, B.W4, B.W5, B.W6, B.W7, B.W8, B.W9
	W5	pharmacodynamics and pharmacokinetics of drugs used in birds	B.W3, B.W4
	W6	immunology and the prevention of avian infectious diseases	B.W3
Skills: (In terms of skills, the graduate can)	U1	perform clinical investigations of the farm- and pet- birds and can perform basic laboratory tests	B.U1, B.U2, B.U3, B.U5, B.U6
	U2	perform the necropsy of birds' carcasses, can prepare the necropsy protocol, and interpret the results	B.U16
	U3	take appropriate samples for laboratory tests and interprets the test results	B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	perform the diagnosis of infectious and non-infectious diseases in birds	KS.1, KS.5
	K2	act according to the principles of avian disease therapy	KS.1, KS.4, KS.8
Course content ensuring the achievement of learning outcomes:		Fundamental issues of avian anatomy, immunology, and correct diagnosis of bird diseases based on clinical, pathological examinations and laboratory tests. Production of poultry, pigeons, exotic birds and wild birds.	
Examination methods:		Written exam, Written credit, Oral credit	

Subject name:		Dietetics	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	structure and describes functions of digestive system	B.W1, B.W2
	W2	the relationship between food intake, digestion, absorption and excretion of individual nutrients	B.W1, B.W3
	W3	the differences between species in the demand for nutrients	B.W13
	W4	the differences between commercial food, veterinary diet and home-made diet	B.W13
	W5	the characteristic features of dietary management for a given disease	B.W1, B.W13, B.W14, B.W2
Skills: (In terms of skills, the graduate can)	U1	properly select dietary management for a given disease	B.U21, B.U5
	U2	lay down food doses for individual animal species in health and disease	B.U21, B.U5
	U3	interpret requirement for ingredients based on results of morphological and biochemical analyzes	B.U21, B.U5
	U4	use scientific articles and data	B.U21, B.U5
Social competences: (Within the scope of competence, the graduate is ready to)	K1	show responsibility for decisions regarding animal nutrition in good health	KS.1, KS.4, KS.5, KS.8
	K2	undertake a dietary procedure	KS.1, KS.4, KS.5, KS.8
	K3	continually improve his knowledge and improvement skills	KS.1, KS.4, KS.5, KS.8
Course content ensuring the achievement of learning outcomes:		Dietary management in selected disease entities of dogs and cats and individual nutrients' role in nutritional therapy. Particular emphasis will be placed on discussing the principles of selecting the amount and proportion of nutrients in each disease entity and nutritional guidelines that determine the choice of commercial household food and veterinary diets in dietary management.	
Examination methods:		Written exam, Oral credit	

Subject name:		Dog and cat diseases - infectious diseases	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	causes and symptoms of the diseases; procedures for therapy and prevention in the particular diseases	B.W2, B.W3, B.W4, B.W5, B.W6, B.W8
Skills: (In terms of skills, the graduate can)	U1	implement diagnostic (including differential diagnostics) and therapeutic procedures	B.U10, B.U13, B.U19, B.U2, B.U21, B.U3, B.U6, B.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	collect, analyse and correctly interpretate clinical data, results of the laboratory tests and other diagnostics techniques	KS.1, KS.5, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		Etiopathogenesis, epidemiology, symptomatology, diagnosis, differential diagnosis and combating infectious diseases of dogs and cats.	
Examination methods:		Written exam, Oral exam	

Subject name:		Dog and cat diseases - internal diseases	ECTS: 5
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	basic internal diseases of dogs and cats	B.W1, B.W2, B.W3
	W2	basic diagnostic methods used in the diagnosis of internal diseases of dogs and cats	B.W2, B.W4
	W3	methods of therapeutic treatment of dog and cat diseases	B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	conduct an interview, clinical examination and differential diagnosis	B.U1, B.U2, B.U3
	U2	perform an additional test and interpret their result	B.U6, B.U7
	U3	choose the appropriate therapeutic method	B.U13
Social competences: (Within the scope of competence, the graduate is ready to)	K1	conduct treatment of internal diseases of dogs and cats with awareness of the responsibility for making decisions towards owners and animals	KS.1, KS.2, KS.3, KS.4
	K2	cooperate in a team putting animal welfare first	KS.2, KS.3, KS.6, KS.7
	K3	act according to ethical principles	KS.4, KS.8
	K4	update knowledge and share knowledge and competencies with others.	KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		The course will provide the knowledge in diagnostics and treatment of the most common Small Animal diseases. Students, after completing the course should be able to: - identify proper signal, the chief complaint, - review medical history, - perform a thorough physical examination, - select diagnostic and therapeutic procedure, - collect and interpret laboratory data, - perform basic surgery procedures and anaesthesia protocols - choose the right treatment and follow-up protoco	
Examination methods:		Written exam	

Subject name:		Dog and cat diseases - reproduction	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the mechanisms of normal reproductive processes and the main hormonal regulations of small animal reproduction,	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6
	W2	basics of diagnosis and treatment of diseases of the reproductive system of small animals	B.W1, B.W3, B.W4, B.W6, B.W7
	W3	rules for handling animals, overpowering them, and the study of selected diseases of the reproductive system of small animals	B.W1, B.W2, B.W4, B.W5, B.W6, B.W9
	W4	principles of sedation, local and general anesthesia, and pain relief	B.W1, B.W3, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	recognize, define and explain the correct processes reproductive	B.U1, B.U3, B.U6, B.U7
	U2	characterize the action of hormones that control reproductive functions	B.U1, B.U3, B.U5, B.U6
	U3	select and use pharmacological and surgical methods of contraception	B.U13, B.U2, B.U3, B.U9
	U4	characterize the pathogenesis of diseases of the ovaries,uterus and vagina	B.U13, B.U2, B.U3, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	developed a habit of constantly updating his knowledge and skills, knows his limitations,	KS.10, KS.11, KS.12, KS.2, KS.4, KS.5, KS.6, KS.7, KS.8, KS.9
	K2	work as part of a medical team with an anesthesiologist and support staff	KS.1, KS.2, KS.3, KS.4, KS.8
	K3	planning and conducting treatment of diseases of the reproductive organs and mammary glands	KS.1, KS.5, KS.6, KS.9
Course content ensuring the achievement of learning outcomes:		Issues of hormonal regulation of the course of the ovarian cycle, the mechanisms of ovulation, and the processes of maturation of the ovum. The course of fertilization processes in the fallopian tube and implantation of the fertilized ovum in the uterus. Hormonal regulation of the course of pregnancy, the structure and types of placenta and hormonal regulation of the course of labor. Basic information on canine and feline neonatology. Hormonal regulation of lactation and ways to care for the newborn. The course of physiological and the main diseases of the postnatal period. Causes and types of diseases of the ovaries, fallopian tube, uterus and vagina of dogs and cats. Causes and symptoms of diseases of the mammary gland of bitches and cats and prostate in dogs. Neutering procedures for dogs and cats. Indications and performance of cesarean section procedures along with the basics of anesthesiology in reproductive organ surgery. Types and performance of procedures for removal tumors of the mammary gland.	
Examination methods:		Written exam	

Subject name:		Dog and cat diseases - surgery	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the correct symptom, the most important disease problem of the patient; diagnostic, anaesthetic and surgical procedure; principles of collecting the material for additional diagnostic tests and interpretation of laboratory data; follow-up protocol; principles of diagnosis and treating the surgical diseases; principles of proper anaesthetic protocol	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6, B.W9
Skills: (In terms of skills, the graduate can)	U1	perform a thorough physical examination, handle the animal in a professional manner (safely and with the restraint of the animal kept to a minimum) and basic surgical procedures	B.U1, B.U11, B.U12, B.U14, B.U4, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	constantly update his knowledge and skills	KS.7, KS.8
Course content ensuring the achievement of learning outcomes:		General and detailed surgery. Anaesthesiology of dogs and cats. Diagnosis of diseases requiring surgical management. Pre- and post-operative management. Upper airway obstruction. Surgery for selected diseases in the thoracic region, trauma, pleural fluid, and thoracotomy. Laparotomy in animals. Diseases of the oesophagus in small animals. Gastric dilatation and torsion. Intestinal obstructions. Obstructions of the urinary tract. Hernias causes and types of hernias. Peritonitis. Emergency management of bone fractures. Biology of fracture healing. Conservative methods of treatment of fractures. Indications and techniques of surgical treatment of fractures. Complications in the treatment of fractures. Joint dislocations. Post-traumatic patient, principles of life-threatening management. Operative methods of treating tumours in small animals. Indications for surgery. Methods of surgical treatment of tumours. Wounds and their protection.	
Examination methods:		Written exam, Test (written or computer based)	

Subject name:		Anaesthesia and pain management in veterinary procedures	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how to collect, analyse and correctly interpret clinical data of cases.	B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	select methods of safe sedation, general and local anaesthesia, and methods for pain evaluation and relief.	B.U10, B.U11, B.U12, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	evaluates the case-studies of animal anaesthesia and analgesia and derives from them knowledge for self-enhancement in the professional development	KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Assessment of activity during classes	

Subject name:		Clinical toxicology of large animals	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the most common poisonings reported in large animals, including their causes and manifestations	A.W21, B.W1, B.W2, B.W3
	W2	the diagnostics rules and non-specific and specific therapy protocols used in acute and chronic poisonings	A.W16, A.W21, B.W4
	W3	the consequences of incorrect dosing of mineral and phytogenic feed additives in farm animals and horses	A.W16
Skills: (In terms of skills, the graduate can)	U1	collect toxicological data, including data specific for individual animal species	A.U12, A.U13, B.U2
	U2	select samples and diagnostic tests to confirm a poisoning	B.U23, B.U6
	U3	chose the most suitable therapy protocol in acute and chronic poisonings	B.U13
	U4	perform differential diagnostic process in case of poisoning suspicion	B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to make its mind in a situation of chemical hazard (decide about therapy protocols for affected animals and personal protective equipment for individuals involved)	KS.1, KS.10, KS.5
	K2	to advise animal owner/farmer in regards to safe use of mineral and phytogenic feed additives	KS.9
	K3	to critically interpret the results of laboratory tests in case toxicological analysis	KS.7
Course content ensuring the achievement of learning outcomes:		Introduction to clinical toxicology of large animals; Epidemiology of the most frequent poisonings in large animals; Detailed characteristic of iron toxicity, including adverse reactions in piglets; Detailed characteristic of metals poisonings; Detailed characteristics of animal and bacteria toxins; Detailed characteristics of toxic plants; Toxicological significance of non-protein nitrogen (NPN) compounds in the animal diet; Feed contamination with mycotoxins; Salt poisoning (water deprivation), including film watching; The signification of water quality in animal production; Introduction to anti-doping and controlled medication regulations in equine sport. Basics of herbal-drug interactions.	
Examination methods:		Written credit	

Subject name:		Clinical toxicology of small animals	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the most common poisonings reported in dogs and cats, including their causes and manifestations,	A.W21, B.W1, B.W2, B.W3
	W2	the diagnostics rules and non-specific and specific therapy protocols used in acute and chronic poisonings	A.W16, A.W21, B.W4
	W3	the consequences of incorrect dosing of mineral and phytogenic feed additives in companion animals	A.W16
Skills: (In terms of skills, the graduate can)	U1	to collect toxicological data, including data specific for individual animal species,	A.U12, A.U13, B.U2
	U2	to select samples and diagnostic tests to confirm a poisoning	B.U23, B.U6
	U3	chose the most suitable therapy protocol in acute and chronic poisonings	B.U13
	U4	to perform differential diagnostic process in case of poisoning suspicion	B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to make its mind in a situation of chemical hazard (decide about therapy protocols for affected animals and personal protective equipment for individuals involved)	KS.1, KS.10, KS.5
	K2	to advise animal owner in regards to safe use of mineral and phytogenic feed additives	KS.9
	K3	to critically interpret the results of laboratory tests in case toxicological analysis	KS.7
Course content ensuring the achievement of learning outcomes:		Introduction to clinical toxicology of dogs and cats; Epidemiology of the most frequent poisonings in dogs and cats; Detailed characteristic of anticoagulant rodenticides; Toxicology of other non-anticoagulant rodenticides: cholecalciferol and bromethalin, strychnine; Detailed characteristic of metaldehyde intoxication in dogs and cats. Differential diagnostics in neurologic patients; Detailed characteristics of poisoning caused by ethylene glycol and other organic solvents in dogs and cats; Toxicological significance of household products, narcotics and OTC drugs; Detailed characteristics of toxic plants (outdoor and indoor plants) and animals' toxins; Toxicology of iron, copper and zinc.	
Examination methods:		Written credit	

Subject name:		Reptile and amphibian dietetics	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	rules of welfare (dietetics of reptiles & amphibians)	B.W9
	W2	food types, prey and supplements for reptiles & amphibians	B.W13
	W3	code of ethics of veterinary surgeon in the field of exotic animals' care	B.W9
	W4	rules of feeding reptiles & amphibians	B.W13
	W5	the risks connected with dietary mistakes in range of reptile & amphibian dietetics	B.W13, B.W5, B.W6, B.W7, B.W9
Skills: (In terms of skills, the graduate can)	U1	logically analyze dietetic needs of reptiles & amphibians	B.U5
	U2	analyze the condition of animal	B.U5
	U3	correctly analyze unbiased sources of knowledge about reptile & amphibian dietetics	B.U20, B.U5
	U4	logically correlated feeding conditions with animal’ welfare	B.U20
	U5	interpret responsibility of veterinary surgeon towards exotic animals	B.U1, B.U20, B.U21
Social competences: (Within the scope of competence, the graduate is ready to)	K1	cooperate with breeders and specialists in other fields dealing with dietetics	KS.8, KS.9
	K2	search for current unbiased sources of knowledge and lifelong learning	KS.4, KS.8
	K3	for critical evaluation of knowledge in the field of dietetics of reptiles & amphibians	KS.5, KS.7
	K4	share own knowledge on the subject of dietetics of reptiles & amphibians and using the knowledge of others	KS.9
	K5	show responsibility for decisions taken – animals' welfare	KS.1
Course content ensuring the achievement of learning outcomes:		Dietary requirements of the amphibians and reptiles. Rules of correct diet composition.	
Examination methods:		Project	

Subject name:		Seafood quality and safety management	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the risk linked to the harvest and post-harvest area, control strategies and practices applied in the fish and fishery products industry, the basic requirements of the applicable seafood safety laws and regulations	B.W17
Skills: (In terms of skills, the graduate can)	U1	determine whether the potential hazard is significant, assess the relevance of the critical control points, formulate and assess control strategies	B.U18, B.U22
Social competences: (Within the scope of competence, the graduate is ready to)	K1	communicate with processors of fish and fishery products, deepen their knowledge and to analyse it critically, shows responsibility for decisions taken	KS.11, KS.8
Course content ensuring the achievement of learning outcomes:		Seafood HACCP. Risks linked to the harvest area. Potential process-related hazard. Post-harvest risks assessment.	
Examination methods:		Test (written or computer based), Assessment of activity during classes	

Subject name:		Veterinary at the border control	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the EU and international law regulations regarding border control of animals and products of animal origin	B.W16, B.W21
	W2	the bases of the functioning of state veterinary service, also in the aspect of public health prevention	B.W16, B.W21
Skills: (In terms of skills, the graduate can)	U1	describe conditions for the international trade of animals and products of animal origin and animal welfare	B.U22
	U2	recognise the correct organisation of a border inspection post	B.U22
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to work, communicate and cooperate in an interdisciplinary team	KS.9
Course content ensuring the achievement of learning outcomes:		Requirements for the cross-border movement of animals and products of animal origin. Rules for official controls at the border.	
Examination methods:		Test (written or computer based), Report, Assessment of activity during classes	

Subject name:		Fur animals diseases	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the characteristics, basics of husbandry and the welfare of fur farm animal species	B.W2, B.W3, B.W4, B.W5, B.W9
	W2	the aetiology and consequences of selected fur animal diseases	B.W10, B.W2, B.W3, B.W4, B.W6
	W3	compounds (medicines) and rules concerning their use in fur farm animals	B.W6, B.W8, B.W9
Skills: (In terms of skills, the graduate can)	U1	recognise clinical symptoms in fur farm animals	B.U10, B.U13, B.U2, B.U3, B.U8
	U2	recognise pathological lesions (revealed by autopsy) in examined fur farm animals	B.U13, B.U16, B.U19
	U3	choose the adequate diagnostic method(s) to detect causative agents of diseases in fur farm animals	B.U16, B.U21, B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use knowledge to set up the optimal proceedings and control measures for fur animal diseases	KS.1, KS.11, KS.4, KS.8, KS.9
	K2	communicate with farm owners using proper language and terms to discuss health issues	KS.1, KS.11, KS.2, KS.3, KS.4, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		Husbandry rules rearing conditions and welfare issues of farm fur animals. Aspects of diagnostics, veterinary proceedings of pprevention and treatment and control measures of fur animals' most often found diseases. Husbandry specificity of carnivorous fur animals: foxes, mink, raccoon dogs, ferrets, etc.; and herbivorous fur animals: chinchilla, nutria (coypu) are discussed. Diagnostics, control methods, proceedings and differential diagnostics in the context of species specificity. In vivo and post-mortem examination of fur animals, diagnostics of particular diseases and treatment methodology on the farm. Discussion on the role of veterinary inspection control procedures in fur animal farms.	
Examination methods:		Test (written or computer based), Oral credit	

Subject name:		Safety of food of animal origin (2)	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	technological aspects of food of animal origin production; microbiological, physical and chemical hazards occurring in its production	B.W18
	W2	the legal aspects of ensuring food safety	B.W21
	W3	the alternative methods of food preservation;	B.W17
	W4	the private food safety management systems (FSMS); the relationship between private and obligatory FSMS	B.W16
Skills: (In terms of skills, the graduate can)	U1	prepare a protocol from official control, identify the FSC/ PHC, verify the correctness of implementation and maintenance of pre-requisites programs and procedures based on HACCP principles, plan and carry out an organoleptic assessment and microbiological testing of food of animal origin	B.U18, B.U22
Social competences: (Within the scope of competence, the graduate is ready to)	K1	deepen his knowledge and analyse it critically	KS.8
	K2	communicate and cooperate with representatives of food processing plants in the field of food production supervision	KS.11
	K3	demonstrate responsibility for decisions taken	KS.1
	K4	formulate independent conclusions and opinions	KS.7
Course content ensuring the achievement of learning outcomes:		Hygiene and safety of hermetically sealed foods, aquatic foods, poultry, eggs and egg products and food storage safety in cold storage. Alternative methods of food preservation and the principles of conducting a challenge test.	
Examination methods:		Written exam, Written credit, Assessment of activity during classes	

Subject name:		Applied pharmacology of farm animals	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	approved veterinary medicinal products for use in farm animals	B.W3
	W2	the practical principles of drug selection in given clinical symptom and disease units in farm animals	B.W3
	W3	the practical principles of using chemotherapeutic in farm animals.	B.W3
	W4	the principles of combining drugs in combination therapy in selected disease in farm animals.	B.W3
Skills: (In terms of skills, the graduate can)	U1	explain the differences, and critically assess the effectiveness of therapy conducted with different drugs with the same basic effect.	B.U13, B.U9
	U2	assess the benefits and risks of therapy.	B.U13, B.U9
	U3	critically evaluate the propose therapeutic solutions	B.U13, B.U9
	U4	correctly assesses the importance of the selected medicinal product in the planned therapy	B.U10, B.U13, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	select in a responsible manner products for therapy, from approved veterinary medicinal products.	KS.1
	K2	be guided primarily by the good of the patient when choosing a medicinal product	KS.2, KS.4
	K3	supplement knowledge in the field of new medicinal products	KS.4, KS.8
	K4	select the medicinal product based on reliable knowledge	KS.4, KS.8
	K5	take the responsibility of decisions regarding the choice of a medicinal product	KS.1, KS.2
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit, Project	

Subject name:		Behavioural medicine of cats and dogs	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how to obtain a behavioural history	B.W4, B.W5, B.W6
	W2	how to recognize the natural and pathological behaviour of dogs and cats and list the basic behavioural needs of animals of these species	B.W2, B.W9
	W3	how to list and describe most common canine and feline behavioural and mental disorders	B.W3
	W4	how to list and describe methods to prevent behaviour problems in dogs and cats	B.W3, B.W4
	W5	how to list and describe the basic methods of treatment of behaviour problems in dogs and cats	B.W4
	W6	how to choose appropriate behaviour modification techniques and apply proper pharmacotherapy	B.W4
Skills: (In terms of skills, the graduate can)	U1	obtain a behavioural history	B.U2, B.U3
	U2	choose appropriate behaviour modification techniques and apply proper pharmacotherapy	B.U1, B.U13, B.U20, B.U5
	U3	advise the appropriate methods of preventing behavioral problems in dogs and cats	B.U1, B.U21
Course content ensuring the achievement of learning outcomes:		Basic behavioural needs of dogs and cats. Normal and pathological behaviour. Canine and feline communication systems. Elements of the anatomy and physiology of the limbic system, mechanisms of impulsive-emotional activity. An animal exhibiting behavioural problems as a patient of a veterinary clinic. Behavioural history, diagnostic procedure, differential diagnosis. Preventing behavioural issues in dogs and cats. Principles of behavioural and pharmacological therapy of canine and feline behavioural and mental disorders. Lecturer-led case study seminars.	
Examination methods:		Case, Test (written or computer based)	

Subject name:		Behavioural medicine of horses	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basic rules of communication between horses and service, veterinarian.	B.W4, B.W5, B.W9
Skills: (In terms of skills, the graduate can)	U1	recognize horses that will be aggressive; recognize healthy horses and horses with behaviour problems and diseases	B.U1, B.U13, B.U2, B.U3
Social competences: (Within the scope of competence, the graduate is ready to)	K1	work in a team; Good communication with the animal owner / keeper; how to recognize behaviour problems	KS.1, KS.2, KS.4, KS.5, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Presentation	

Subject name:		Breed-related disorders	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	which findings are clinically relevant identify the chief complaint, review medical history, and execute proper anamnesis	B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	asses which findings are clinically relevant identify the chief complaint, review medical history, and execute proper anamnesis	B.U1, B.U2, B.U3
	U2	select diagnostic and therapeutic procedure	B.U13, B.U2, B.U3, B.U6
	U3	collect the material for additional diagnostic tests and interpret laboratory data	B.U13, B.U3, B.U6, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	think logically even when dealing with a lot of information gathered from the history and clinical examination	KS.4, KS.5
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Test (written or computer based)	

Subject name:		Case studies in small and exotic animals anaesthesia and anaelgesia	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the general rules and peculiarities of the anaesthesia procedures in small and exotic animals	B.W5, B.W9
	W2	how and when to apply analgesia in small and exotic animals	B.W5, B.W9
Skills: (In terms of skills, the graduate can)	U1	select methods of safe sedation, general and local anaesthesia, and methods for pain evaluation and relief in small animals and exotic species	B.U10, B.U11, B.U12, B.U13, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	competently evaluate the case-studies of small and exotic animal anaesthesia and analgesia and derives from them knowledge for self-enhancement in the professional development	KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Assessment of activity during classes	

Subject name:		Clinical anaesthesiology	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the correct procedures in animal anaesthesia and analgesia	B.W5, B.W9
Skills: (In terms of skills, the graduate can)	U1	perform animal sedation, anaesthesia and monitors patients both during surgery and in post-surgery recovery period	B.U10, B.U11, B.U12, B.U9
	U2	evaluate patient status and select proper drugs and procedures	B.U10, B.U11, B.U12, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	evaluate the case-studies of animal anaesthesia and analgesia and derives from them knowledge for self-enhancement in the professional development	KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Assessment of activity during classes	

Subject name:		Clinical and laboratory diagnostics in emergency veterinary medicine	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how to evaluate an algorhithm for estimating an animal's life threat risk	B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	provide evaluating emergency care priorisiting	B.U3, B.U4, B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	decide on the proper animal monitorig based on physical examination and symptoms	KS.10, KS.3, KS.4, KS.5
Course content ensuring the achievement of learning outcomes:		Students attending the course will participate the discussion of correct diagnostic proceedings in life threatening diseases based on multimedia presentations and diagnostic test results. The discussion will be concern estimation of the primary health status, algorhithm for estimating an animal life threat risk and additional tests required.	
Examination methods:		Test (written or computer based)	

Subject name:		Differential diagnostics based on laboratory results	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the diagnostic algorithms used for differential diagnostic consideration	B.W4, B.W6
	W2	the importance of the results of laboratory tests	B.W6
Skills: (In terms of skills, the graduate can)	U1	analyse critically available literature	B.U20
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use various sources of literature to analyse problems critically	KS.4, KS.5, KS.8
	K2	collaborate with specialists of various disciplines of veterinary medicine	KS.10, KS.11
Course content ensuring the achievement of learning outcomes:		General laboratory concepts; laboratory results in electrolytes disorders; laboratory results in urinary disorders; laboratory results in endocrine, metabolic and lipid disorders; interpretation of laboratory results in gastrointestinal, hepatic and pancreatic disorders.	
Examination methods:		Case	

Subject name:		Equine emergency and field practice	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	- the major pathologies associated with equine filed practise - the diagnostic algorithms used in equine field practice - basic treatment protocols used in equine field practice - how to handle clinical data and the results of laboratory and additional tests	B.W3, B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	- use basic diagnostic algorithms in equine filed practice - conduct a full clinical examination in equides - perform basic procedures used in equine filed practice - gather the patient's history - interpret the basic diagnostic tests, propose the differential diagnosis and treatment protocol	B.U13, B.U2, B.U3, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	- demonstrating responsibility for decisions made towards people, animals and the natural environment - use objective sources of information - formulate conclusions from their own measurements or observations - deepen knowledge and improve skills - operate in conditions of uncertainty and stress	KS.1, KS.10, KS.4, KS.5, KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Assessment of activity during classes, Presentation	

Subject name:		From symptoms to diagnosis - skin	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	skin diseases that cause clinical signs	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6
	W2	methods of treatment of skin diseases that caused discusses clinical signs	B.W3, B.W4
	W3	staging and grading of mast cell tumors in dogs	B.W1, B.W2, B.W3
	W4	different methods of treatment for mast cell tumors	B.W3, B.W4
Skills: (In terms of skills, the graduate can)	U1	make a proper diagnosis of a disease that leads to each clinical sign	B.U2, B.U3, B.U6
	U2	decide about the proper method of treatment	B.U10, B.U13, B.U21, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	discuss the methods of treatment with the pet owner	KS.1, KS.2
	K2	discuss the diagnostic approach for each clinical sign with the owner	KS.1, KS.2, KS.4, KS.5
	K3	make a corect diagnosis for each clinical sign	KS.4, KS.5
Course content ensuring the achievement of learning outcomes:		Differentail diagnosis and methods of treatment for pruritic diseases, diseases with alopecia as a main clinical sign, external otitis, mast cell tumour and pododermatitis in dogs and cats. Diagnostic approaches for each dermatological condition mentioned above.	
Examination methods:		Oral credit, Assessment of speeches during classes	

Subject name:		Herd health management in small ruminants	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the pathomechanisms and clinical course of diseases	B.W2, B.W3
	W2	the rules for conducting interviews and physical examinations of animals	B.W5
	W3	the rules for treating diseases	B.W3
	W4	the principles of differential diagnosis of diseases	B.W4
	W5	the principles of disease monitoring based on clinical data and the results of laboratory and additional tests	B.W6
	W6	the rules for conducting medical and veterinary documentation	B.W6
Skills: (In terms of skills, the graduate can)	U1	collect a history of animal diseases and the environment	B.U2
	U2	safely conduct a veterinary medical examination of the animal	B.U1, B.U3
	U3	coordinate and perform the appropriate detailed examination and additional tests	B.U3, B.U4, B.U6
	U4	carry out differential diagnostics	B.U4, B.U6
	U5	coordinate appropriate treatment with the patient - including pharmacotherapy, diet therapy	B.U10, B.U13, B.U5, B.U9
	U6	conduct medical and veterinary documentation	B.U6
	U7	collect material for additional tests and interpret the results obtained	B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	take responsibility for his actions and decisions	KS.1
	K2	presents an attitude consistent with veterinary deontology and the Veterinary Doctor's Code of Ethics	KS.2
	K3	continuously develop science and is ready to expand and update knowledge	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Essay, Assessment of activity during classes	

Subject name:		Hoof management in cattle	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the principles of performing a clinical examination and examining the musculoskeletal system	B.W5
	W2	how to recognize the lameness and knows the scale of its intensity	B.W9
Skills: (In terms of skills, the graduate can)	U1	diagnose lameness in the herd	B.U7
	U2	choose the right therapeutic procedure for a given case	B.U3
Social competences: (Within the scope of competence, the graduate is ready to)	K1	cooperate with farmer in solving lameness problems	KS.5, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		Hoof trimming and surgical intervention techniques for the most common hoof and limb diseases. Mechanisms of pathogenesis of musculoskeletal problems and their prevention.	
Examination methods:		Assessment of activity during classes	

Subject name:		Nutraceuticals in farm animals	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the division, chemical structure, and methods of isolation of biologically active compounds of plant and animal origin	B.W1, B.W13, B.W9
	W2	the influence of individual biologically active compounds on selected biochemical processes occurring in the cell, tissue, and organ	B.W1, B.W13, B.W9
Skills: (In terms of skills, the graduate can)	U1	determine the influence of biologically active compounds on the rate of biochemical changes taking place in the organ both in the physiological and pathophysiological state	B.U21, B.U5
	U2	indicate the best methods of isolation of biologically active compounds in order to preserve their highest biological value	B.U21, B.U5
	U3	indicate the potential advantages and disadvantages of the use of biologically active compounds	B.U21, B.U5
Social competences: (Within the scope of competence, the graduate is ready to)	K1	demonstrate responsibility for decisions regarding the transfer of information on the role of biologically active compounds in animal nutrition	KS.4, KS.8
	K2	engage in continuous learning	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit	

Subject name:		Veterinary of pig herd	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	methods of pig diagnostic; how to sample the biological material and prepare it for shipping to diagnostic laboratory; how to perform evaluation of laboratory results and serological profiles; how to examine carcases, and perform autopsy; how to evaluate collectively the clinical, post-mortem and laboratory results and perform differential diagnostics	B.W10, B.W2, B.W3, B.W4, B.W5, B.W6, B.W7, B.W8, B.W9
Skills: (In terms of skills, the graduate can)	U1	identifie and describe biology of contagious factors causing diseases transferred between animals and antropozoonozes, including mechanisms of their transfer and animal's defence mechanisms; describes and interpret causes and symptoms of diseases, describes and interprets disieases' pathomorphology manifestations and implements principles of prevention in particular diseases; examine clinically the patients and monitors health in production herds; collect, evaluate and properly interpretate clinical data and laboratory analysis and other data; describe and evaluates conditions providing animal welfare;	B.U1, B.U2, B.U8, B.U9
	U2	effectively communicate with clients, other veterinarians and officers of control units, state and self-government administration; perform entire case study procedure to obtain precise information on single animals orgroups of animals and living environment	B.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	effectively communicate with clients, other veterinarians and officers of control units, state and self-government administration	KS.4, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Oral credit, Assessment of speeches during classes, Report	

Subject name:		Milk hygiene	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the principles of consumer health protection by proper supervision over milk production, milk&dairy products processing	B.W16, B.W17, B.W20
	W2	the correct hygiene conditions and production technology, as well as food safety in the field of dairy production & processing	B.W17, B.W20
	W3	the relevant legislation governing veterinary inspection	B.W21
	W4	the procedures related to HACCP— Hazard Analysis and Critical Control Points System	B.W18
	W5	the principles of food law	B.W21
	W6	laboratory techniques for standard testing of milk quality	B.W6
	W7	the principles of ensuring welfare in the barn	B.W9
	W8	the rules of milk sampling	B.W4
Skills: (In terms of skills, the graduate can)	U1	perform tests assessing the quality and safety of milk and dairy products	B.U18, B.U22, B.U23
	U2	interpret and evaluate the conditions of hygiene and technology of production, as well as and food safety	B.U18
	U3	use appropriate legal acts regulating veterinary inspection over food safety	B.U18
	U4	prepare HACCP system documentation	B.U22
	U5	prepare a sampling protocol, to collect and secure milk samples	B.U18, B.U23, B.U6
	U6	properly analyse and interpret the results of laboratory tests (quality of raw and processed milk)	B.U18, B.U23
	U7	interpret tabulograms	B.U20, B.U5
Social competences: (Within the scope of competence, the graduate is ready to)	K1	cooperate with representatives of other professions in the field of public health protection	KS.11
	K2	communicate and cooperate with breeders and entrepreneurs in the dairy production sector	KS.11, KS.5
	K3	search for actual sources of knowledge and lifelong learning	KS.4, KS.8
	K4	use food law acts	KS.4, KS.8
	K5	critical assessment of knowledge in the field of milk hygiene	KS.7
	K6	share own knowledge in the field of hygiene and milk and to use the knowledge of others	KS.9
	K7	work in a team	KS.9
Course content ensuring the achievement of learning outcomes:		The objective of the module is to prepare students for work in veterinary inspection in food safety supervision of milk production and processing. Students will learn about the hygienic aspects of milk and dairy production, food quality and safety systems on the farm stage and in a processing plant, food law, sanitary and veterinary inspection principles, and test methods and hygienic assessment of milk and dairy products.	

Examination methods:	Written credit, Project, Report

Subject name:		Rotation - Avian diseases	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	embryopathology and pathology of hatching	B.W1, B.W2, B.W3
	W2	anatomopathological lesions of infectious and metabolic diseases of birds	B.W1, B.W2, B.W3, B.W6, B.W7
	W3	the infectious diseases of birds	B.W2, B.W3, B.W5, B.W6, B.W7, B.W8
	W4	pharmacodynamics and pharmacokinetics of drugs used in birds	B.W3, B.W4
Skills: (In terms of skills, the graduate can)	U1	perform the medical history of the case	B.U2, B.U20
	U2	perform clinical examinations and basic laboratory tests on domestic and exotic birds	B.U13, B.U3
	U3	perform a necropsy of birds, prepare the necropsy protocol, and interpret its results	B.U16, B.U19
	U4	take correct samples for laboratory tests and interpret the results of these tests	B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	diagnose the most common infectious and non-infectious diseases in birds	KS.1, KS.10, KS.2, KS.4, KS.5
	K2	responsibly conduct therapy for bird diseases	KS.3, KS.4, KS.7
Course content ensuring the achievement of learning outcomes:		Avian anatomy, immunology, and diagnosis of bird diseases based on clinical examinations, laboratory tests and necropsy.	
Examination methods:		Report, Essay, Presentation	

Subject name:		Rotation - Dog and cat diseases	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	rules on the handling and incapacitation of animals	B.W4, B.W5
	W2	course of disease, clinical symptoms, diagnosis and surgical treatment of selected diseases of dogs and cats	B.W2, B.W3, B.W4
	W3	basic issues in the field of small animal anaesthesiology. He knows anaesthetic protocols.	B.W6, B.W9
	W4	the basic internal diseases of dogs and cats	B.W1, B.W2, B.W3
	W5	basic diagnostic methods used in the diagnosis of internal diseases of dogs and cats	B.W2, B.W4
	W6	methods of therapeutic treatment of dog and cat diseases	B.W4, B.W5, B.W6
	W7	the occurrence, significance, symptoms and control of rare infectious diseases of dogs and cats presented.	B.W4, B.W5
	W8	infectious diseases in which the use of ultrasound techniques will speed up the diagnosis and introduction of treatment.	B.W4
	W9	how to describe, explain and interpret physiological reproductive functions	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6
	W10	how to describe the activity of hormones regulating reproductive functions	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	maintain the principles of surgical aseptic when moving around the operating theatre and participating in operations	B.U14
	U2	perform a clinical examination, make an initial diagnosis and verify it with additional studies	B.U1, B.U2, B.U3, B.U4
	U3	perform all activities related to the preparation of the patient for the procedure on your own	B.U11, B.U13
	U4	conduct an interview, clinical examination and differential diagnosis	B.U1, B.U2, B.U3
	U5	perform an additional test and interpret their result	B.U6, B.U7
	U6	choose the appropriate therapeutic method	B.U13
	U7	recognize rare infectious diseases, including using laboratory diagnostics	B.U2, B.U3
	U8	adjust the pharmacological treatment to individual infectious diseases	B.U13
	U9	control rare infectious diseases	B.U19
	U10	perform basic ultrasound examination using AFAST, TFAST, VetBlue and FocusedECHO protocols	B.U7
	U11	choose and use pharmacological and surgical contraceptive procedures	B.U13, B.U3
	U12	describe the pathogenesis of ovarian, uterine and vaginal diseases	B.U2, B.U3, B.U6, B.U7

Social competences: (Within the scope of competence, the graduate is ready to)	K1	plan and conduct treatment in selected small animal surgical diseases	KS.1, KS.2, KS.4
	K2	cooperate in the medical team with the anaesthesiologist and support staff	KS.5, KS.7, KS.9
	K3	update knowledge and act in accordance with the principles of professional ethic	KS.4, KS.5, KS.8
	K4	critically assess their knowledge and use scientific sources to supplement it	KS.4, KS.8, KS.9
	K5	share knowledge and competences with others	KS.3, KS.9
	K6	conduct treatment of internal diseases of dogs and cats with awareness of the responsibility for making decisions towards owners and animals	KS.1, KS.2, KS.3, KS.4
	K7	cooperate in a team putting animal welfare first	KS.2, KS.3, KS.6, KS.7
	K8	comply with ethical principles	KS.4, KS.8
	K9	recognize, plan and conduct treatment of infectious diseases	KS.1, KS.8
	K10	use basic ultrasound examination techniques in everyday veterinary practice	KS.1, KS.8
	K11	carry out clinical examination and recognize main diseases of reproductive organs	KS.4, KS.5
	K12	implement adequate therapeutic procedures	KS.1, KS.2, KS.4
Course content ensuring the achievement of learning outcomes:		Aetiology, pathogenesis, recognition, clinical symptoms, additional tests, differential diagnosis, pathological changes, complications, treatment, prognosis and prevention of internal diseases of dogs and cats. The program contains information about internal diseases of dogs and cats encountered in veterinary practice.	
Examination methods:		Oral credit, Report, Assessment of activity during classes	

Subject name:		Rotation - Equine diseases	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the physiological and pathological mechanisms of horses	B.W1, B.W2, B.W3
	W2	the clinical manifestations of diseases and knows other diseases with similar clinical appearance	B.W13, B.W4, B.W5, B.W6, B.W9
	W3	the diagnostic schemes and protocols (including differential diagnosis) for equine diseases	B.W4, B.W5, B.W6, B.W9
	W4	the therapeutic schemes and protocols recommended for equine diseases, pharmacodynamics properties of recommended products and the interactions among medicinal products	B.W6
	W5	the principles of conducting clinical trials and monitoring the health status of horses	B.W4, B.W5, B.W6
	W6	anatomopathological lesions typical for particular diseases of horses	B.W1, B.W3
	W7	procedures and applicable legal provisions in the event of suspected or confirmed diseases that are subject of eradication or registration/w mandatory and notifiable	B.W13, B.W7, B.W8
Skills: (In terms of skills, the graduate can)	U1	describe the mechanisms of equine diseases	B.U2, B.U3
	U2	plan the diagnostic procedures (including differential diagnosis) in horses	B.U1, B.U3, B.U6
	U3	plan, implement and monitor the treatment strategies	B.U1, B.U13, B.U9
	U4	diagnose diseases of horses using laboratory diagnostic methods	B.U1, B.U2, B.U20, B.U3, B.U6
	U5	conduct a full clinical examination of horses	B.U1, B.U3, B.U6
	U6	collect, secure and properly mark biological samples	B.U1, B.U6, B.U8
	U7	properly conduct an epizootic investigation and eradicate infectious diseases of horses	B.U1, B.U13, B.U19, B.U20, B.U21
	U8	supplement and maintain documentation related to veterinary practice in accordance with applicable law	B.U19, B.U20
	U9	describe radiographs and correctly interpret the findings, diagnose the most common equine diseases that require surgical intervention	B.U11, B.U12, B.U13, B.U14
Social competences: (Within the scope of competence, the graduate is ready to)	K1	analyze the results of research and is ready to use them for diagnostics, treatment and eradication of diseases of horses	KS.4, KS.5, KS.7
	K2	present an attitude consistent with veterinary deontology and the Veterinary Doctor's Code of Ethics	KS.2
	K3	take responsibility for his actions and decisions	KS.1
	K4	continuously develop of science and is ready to expand and update knowledge	KS.4
	K5	work in field conditions and effectively cooperates with co-workers and personnel	KS.10, KS.9

Course content ensuring the achievement of learning outcomes:	Students take part in field workshops on National Agricultural Support Centre farms and horse studs with high number of animals. During workshops students apply knowledge from fields of herd management, reproduction, infectious diseases, internal diseases and surgery. The aim is to provide practical skills required to asses aetiology and pathogenesis of horse diseases requiring surgical, internal or obstetrical treatment, perform clinical diagnosis and examination and apply proper therapeutic procedures. Introduction in the horse farm organization, herd management (biosecurity protocols, veterinary documentation, horse passport and health documents).
Examination methods:	Report, Assessment of activity during classes

Subject name:		Rotation - Farm animal diseases	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the physiological and pathological mechanisms of farm animals	B.W1, B.W2, B.W3
	W2	the clinical manifestations of diseases and knows other diseases with similar clinical appearance	B.W13, B.W4, B.W5, B.W6, B.W9
	W3	the diagnostic schemes and protocols (including differential diagnosis) for farm animals diseases	B.W4, B.W5, B.W6, B.W9
	W4	the therapeutic schemes and protocols recommended for farm animals diseases, pharmacodynamics properties of recommended products and the interactions among medicinal products	B.W4
	W5	the principles of conducting clinical trials and monitoring the health status of farm animals	B.W4, B.W5, B.W6
	W6	anatomopathological lesions typical for particular diseases of farm animals	B.W1, B.W3
	W7	procedures and applicable legal provisions in the event of suspected or confirmed diseases that are subject of eradication or registration/w mandatory and notifiable	B.W16, B.W7, B.W8
Skills: (In terms of skills, the graduate can)	U1	describe the mechanisms of farm animals diseases	B.U2, B.U3
	U2	plan the diagnostic procedures (including differential diagnosis) in the farm animals	B.U1, B.U3, B.U6
	U3	plan, implement and monitor the treatment strategies	B.U1, B.U13, B.U9
	U4	diagnose diseases of farm animals using laboratory diagnostic methods	B.U1, B.U2, B.U20, B.U3, B.U6
	U5	conduct a full clinical examination of farm animals	B.U1, B.U3, B.U6
	U6	collect, secure and properly mark biological samples	B.U1, B.U10, B.U6, B.U8
	U7	properly conduct an epizootic investigation and eradicate infectious diseases of farm animals	B.U14, B.U19, B.U20, B.U21
	U8	supplement and maintain documentation related to veterinary practice in accordance with applicable law	B.U15, B.U19, B.U23, B.U8
	U9	describe radiographs and correctly interpret the findings, diagnose the most common livestock diseases that require surgical intervention	B.U11, B.U13, B.U14, B.U3, B.U4
Social competences: (Within the scope of competence, the graduate is ready to)	K1	critically analyze the results of research and is ready to use them for diagnostics, treatment and eradication of diseases of farm animals	KS.4, KS.5, KS.7
	K2	presents an attitude consistent with veterinary deontology and the Veterinary Doctor's Code of Ethics	KS.2
	K3	take responsibility for his actions and decisions	KS.1
	K4	continuously develop science and expand and update knowledge	KS.4

	K5	work in field conditions and effectively cooperates with co-workers and personnel	KS.10, KS.9
Course content ensuring the achievement of learning outcomes:		The course will provide knowledge and practical skills regarding: • Internal diseases include disorders of the excretory system, nervous system, cardiovascular system, respiratory system, alimentary system, skin problems, endocrinology and haematology. All topics will include the following aspects: data collection and animal description, clinical examination, differential diagnostics, additional tests, diagnosis and therapy; • General and specific surgery, including anaesthesiology, diagnostics of problems requiring surgical therapy approach, pre-and post-surgery management of animals; • Etiopathogenesis, epidemiology, symptomatology, diagnostics, differential diagnostics, spread control and prevention of infectious diseases, including bacteria, virus and fungi-based diseases; law-regulated diseases; • Farm animal reproduction The content of the lectures supplements the content of the laboratory classes. Detailed objectives of each individual course are described in module descriptions dedicated to this course.	
Examination methods:		Report, Assessment of activity during classes	

Subject name:		Rotation - Laboratory class of parasitology	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the practical approach of parasite life cycles in companion and farm animals	B.W10, B.W2, B.W3, B.W4, B.W5, B.W6, B.W9
	W2	the epidemiology of parasitic invasions (including: zoonotic threats)	B.W10, B.W2, B.W3, B.W4, B.W5, B.W6, B.W8, B.W9
Skills: (In terms of skills, the graduate can)	U1	perform parasitological tests	B.U6
	U2	interpretate the obtained results	B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	analyse selected cases of parasitic invasions - solving problems in clinical practice.	KS.1, KS.4, KS.5, KS.7, KS.8, KS.9
	K2	formulate conclusions and recommendations regarding the fight against parasitic invasions	KS.1, KS.11, KS.3, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		Parasite-born infections, parasitological laboratory technics, and disease protocols in various animal species.	
Examination methods:		Oral credit, Essay, Assessment of work in the laboratory	

Subject name:		Summer practice_Clinical practice (2)	ECTS: 6
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how to interview pet owners	B.W4, B.W5, B.W6, B.W9
	W2	how to perform a physical examination of a patient	B.W5, B.W6, B.W9
	W3	how to take all necessary samples and makes additional examinations (X-ray, USG, etc.)	B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	set up a (preliminary) diagnosis to be presented to the Supervisor	B.U2, B.U3, B.U6, B.U7
	U2	make a plan of treatment and recommendations for the patient	B.U10, B.U2, B.U8
Social competences: (Within the scope of competence, the graduate is ready to)	K1	communicate with the owner to explain the plan of the treatment	KS.1, KS.11, KS.4, KS.5, KS.9
	K2	discuss recommendations for the treated animal(s) to be implemented by the owner	KS.1, KS.11, KS.2, KS.9
Course content ensuring the achievement of learning outcomes:		The aim of the clinical (summer) practice is to conduct clinical training in approved veterinary entities. Student does the summer practice in voluntary chosen veterinary clinic in the fields (- according to the one's preferences e.g. horse clinic, zoo clinic, mixed practice clinic, etc). During the practice, student is obliged to implement knowledge achieved, but all activities can be only done under the supervisor's inspection. Student is obliged to study, analyse and perform all activities concerning various aspects of veterinary practice in the fields. During the practice student should follow the GVP rules, veterinary law and must respect internal regimens of particular veterinary entity, where the practice is being organised. During the practice student should procced interview with animal's owner, pre-prepare animal for the physical examination, assist veterinarian during conducted treatment procedures. Student should also train sampling (swabs, blood, urine, skin scrapings, etc.). According to the procedures student should be involved in all activities concerning particular patients. Subsequently, student should make individual records of these cases.	
Examination methods:		Oral exam	

Subject name:		Summer practice_Veterinary inspection (2) - processing plant	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the principles of documenting the results of official controls in food processing establishments	B.W7
	W2	the principles of dealing with animal by-products	B.W15
	W3	the principles of implementing and maintaining PRPs and procedures based on HACCP principles	B.W18
	W4	the tasks of the OV's in ensuring the safety of food of animal origin	B.W16, B.W20
Skills: (In terms of skills, the graduate can)	U1	carry out official controls according to applicable standards and ethical principles	B.U18, B.U22
Social competences: (Within the scope of competence, the graduate is ready to)	K1	perform his/her work in an ethical and socially responsible manner	KS.1
	K2	working as part of a team	KS.10, KS.11
Course content ensuring the achievement of learning outcomes:		The role of the official veterinarian (OV) in food safety. Technological aspects of the production of foods of animal origin. PRPs and HACCP principles implementation. Preparedness of the FBO and own check plan. Private food law.	
Examination methods:		Oral exam, Report	

Subject name:		Veterinary prevention	ECTS: 4
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	methods of animal houses microclimate analyses	B.W11, B.W20, B.W5, B.W9
	W2	principles of desinfection, desinsection, deratization and repelling synantropic birds	B.W17, B.W20, B.W8
Skills: (In terms of skills, the graduate can)	U1	provide evaluation of environmental and zoohigienic conditions, work organization, services, evaluation of feeding and immunoprevention strategy on the farm	B.U16, B.U2, B.U20, B.U7
	U2	perform evaluation of farm productivity including evluation of the strategy taken by the farm management and current market situation	B.U20, B.U21, B.U25, B.U5, B.U8
	U3	propose reasonable prevention strategies for evaluated farms	B.U19, B.U24, B.U25
	U4	monitor the implemented preventive means at farm	B.U17, B.U19, B.U2, B.U5, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use principles of veterinary prevention in the herd	KS.1, KS.2, KS.3, KS.7
	K2	cooperate with farmer in solving health problems in the animal’s herd	KS.1, KS.11, KS.2, KS.6, KS.9
Course content ensuring the achievement of learning outcomes:		Veterinary prevention covers means to assure animal welfare and productivity and to protect from epigenetic disorders in foetal life like premature birth and non-infectious and infectious intrauterine growth retardation. Furthermore, it covers topics in neonatology and physiology and pathology of growing production animals and all hygienic procedures associated with nutrition, proper resistance to diseases and herd health management. The other sub-topics are related to diagnostics of the entire herd condition by feed and water examination, productivity reports, diagnostic tests and examination of individual cases. Finally, farm localization, local environment and related biohazards, which may play important roles, are covered.	
Examination methods:		Written exam, Oral exam, Project	

Subject name:		Herd health management	ECTS: 3
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	methods of acquisition and interpretation of production and health results;	B.W3, B.W4, B.W5
	W2	forms of herd health management, computerized herd management systems;	B.W2, B.W20, B.W22, B.W6, B.W8, B.W9
Skills: (In terms of skills, the graduate can)	U1	perform evaluation of farm productivity including evaluation of the strategy taken by the farm management and current market situation; strategies for evaluated farms;	B.U20, B.U25, B.U5, B.U8
	U2	suggest reasonable management strategies for evaluated farms;	B.U19, B.U24, B.U25
	U3	monitor the implemented farm management strategy at farm;	B.U19, B.U20, B.U21, B.U7, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	personal and social competences – student achieves the ability to use principles of herd health management;	KS.1, KS.4, KS.5, KS.7
	K2	cooperate with farmer in solving health problems in the animal's herd.	KS.1, KS.11, KS.2, KS.6, KS.9
Course content ensuring the achievement of learning outcomes:		The herd health management cover all activities and decisions aimed at maintaining good health and well-being among high-production animals. Three fundamental factors that determine the health and productivity of a high-potential dairy cow and bacon pig are nutrition, comfort and reproduction. Students learn the methods of obtaining and analysing the data related to health and livestock production, the methods of feeding control, the metabolic and reproduction disorders in different phases of the production cycle. Herd health management is an interdisciplinary approach which combines knowledge from veterinary sciences, animal sciences and economy.	
Examination methods:		Written exam, Project, Report, Assessment of activity during classes	

Subject name:		Rotation - Veterinary laboratory diagnostics	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the rules for the organization of various types of diagnostic laboratories taking into account the applicable law and is able to indicate the appropriate laboratory, equipment and analytical apparatus and define the principles of safe work, the rules of proper handling of the material delivered to the laboratory and assess its analytical usefulness, the rules for the proper handling of reagent kits for laboratory tests	B.W1, B.W2, B.W3, B.W4, B.W5
Skills: (In terms of skills, the graduate can)	U1	characterize the basic assumptions of the management system and quality in analytical laboratories, develop rules for the correct collection of labeling, transport and storage of biological material until delivery to the laboratory and indicate the correct completion of the referral, evaluate individual analytical methods in terms of their sensitivity, specificity, as well as accuracy and precision, assess the critical points of analytical errors,	B.U1, B.U2, B.U3, B.U6, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	work using basic analytical equipment, being in the diagnostic laboratory and to determine selected haematological and biochemical parameters on it, formulate opinions on the basis of independent assessment the microscopic picture of blood, urine sediment with interpretation of results, cooperate with the veterinary team in the field of preparing material and assessment of the animal's immune status using selected parameters	KS.1, KS.2, KS.4, KS.5, KS.8
Course content ensuring the achievement of learning outcomes:		The aim of this subject is to provide students with practical skills in collecting, securing and transporting biological material to the laboratory and completing referrals, but also organization of work in the analytical laboratory, performing laboratory tests and correct interpretation of results, taking into account the possibility of analytical errors. The main goal of practical education is the student to perform basic haematological, biochemical, cytological, serological and molecular biology methods in biological material - blood, urine, fluids from body cavities.	
Examination methods:		Test (written or computer based)	

Subject name:		Applied pharmacology of companion animals	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	veterinary medicinal products which use in companion animals	B.W3, B.W4
	W2	the practical principles of drug selection in given clinical symptom and disease units in companion animals	B.W3, B.W4
	W3	the practical principles of using chemotherapeutic in companion animals.	B.W3, B.W4
	W4	the principles of combining drugs in combination therapy in selected disease in companion animals.	B.W3, B.W4
Skills: (In terms of skills, the graduate can)	U1	to explain the differences, and critically assess the effectiveness of therapy conducted with different drugs with the same basic effect.	B.U13, B.U9
	U2	assess the benefits and risks of therapy.	B.U13, B.U9
	U3	critically evaluate the proposed therapeutic solutions.	B.U13, B.U9
	U4	correctly assesses the importance of the selected medicinal product in the planned therapy.	B.U13, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	select in a responsible manner products for therapy, from approved medicinal products.	KS.1
	K2	guided primarily by the good of the patient when choosing a medicinal product.	KS.2, KS.4
	K3	supplement knowledge in the field of new medicinal products.	KS.4, KS.8
	K4	selects the medicinal product based on reliable knowledge.	KS.4, KS.8
	K5	aware of the consequences of decisions regarding the choice of a medicinal product.	KS.1, KS.2
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit, Project	

Subject name:		Cardiology diagnostics in small animals	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basic methods of a cardiologic clinical examination	B.W4, B.W5
	W2	a basic interpretation of the results of the cardiologic examination	B.W2, B.W3, B.W5
	W3	the most frequent heart diseases in dogs and cats	B.W3, B.W8
Skills: (In terms of skills, the graduate can)	U1	perform additional cardiologic examination (X-ray, echo, ECG, blood pressure)	B.U7
	U2	interpret of additional cardiologic examinations	B.U1, B.U2, B.U3
Social competences: (Within the scope of competence, the graduate is ready to)	K1	perform cardiac examination independently and decide on the necessity of additional tests	KS.5, KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit	

Subject name:		Clinical course of exotic animal diseases (ZOO)	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	role of zoological garden, and role of zoo veterinarian including welfare assessment and safety procedures during immobilization of wildlife	B.W3, B.W4, B.W5, B.W6, B.W8, B.W9
Skills: (In terms of skills, the graduate can)	U1	look for an information regarding wild and exotic species. Student will learn representative cases of problems/syndroms/diseases of zoo animals. capable of performing examination/assesment/anamnesis of wild or exotic animals kept in zoological garden.	B.U1, B.U2, B.U3, B.U5
Social competences: (Within the scope of competence, the graduate is ready to)	K1	discuss or present cases to other colleagues, collecting anamnesis from keepers and curators by asking proper questions	KS.1, KS.10, KS.2, KS.4, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Presentation, Assessment of activity during classes	

Subject name:		Clinical course of small animal surgery	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	rules for the handling and incapacitation of animals	B.W1, B.W2, B.W3
	W2	course, clinical symptoms, diagnosis, and methods of surgical treatment of selected canine diseases and cats	B.W3, B.W4, B.W5, B.W6
	W3	basic issues in the field of anesthesiology	B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	keep the rules of surgical asepsis while working in the operating theater and participating in operations	B.U1, B.U14, B.U2, B.U3
	U2	perform a clinical examination, make a preliminary diagnosis, verify it with additional examinations	B.U2, B.U3
	U3	carry out all the activities related to preparing the patient for the procedure yourself	B.U1, B.U3, B.U4, B.U6
	U4	assist in surgical procedures and perform simple surgical procedures	B.U11, B.U12, B.U13, B.U14
	U5	specify the detailed postoperative procedure	B.U10, B.U11, B.U12, B.U13, B.U14, B.U9
	U6	interview the animal's owner at every stage of the patient's stay in the Clinic.	B.U10, B.U5, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	plan and conduct treatment in selected surgical units for small animals	KS.1, KS.2
	K2	cooperate in a medical team with an anesthesiologist support staff	KS.1, KS.4, KS.5, KS.6, KS.9
	K3	update knowledge, following the principles of professional ethics	KS.2, KS.8, KS.9
	K4	critically assess knowledge and use scientific sources to supplement it	KS.7, KS.8
	K5	share knowledge and competences with others	KS.9
Course content ensuring the achievement of learning outcomes:		Labs topics (each exercise 3x 45 minutes) 1. Diseases of the salivary glands 2. Retroperitoneal diseases of the pelvic cavity 3. Gastric dilatation- volvulus 4. Diagnosis and treatment of anterior cruciate ligament rupture 5. Diagnosis and surgical treatment of diseases of the inner and middle ear 6. Indications and surgical methods of treating thyroid disease 7. Indications and surgical methods of treating adrenal diseases 8. Indications and surgical methods of treating pancreatic diseases 9. Diagnosis and treatment of laryngeal paralysis in dogs 10. Thoracic and abdominal injuries - conservative and surgical procedures 11. Plastic surgery of the skin, reconstructive surgery, management of wounds healing 12. Surgical management in peritonitis, eventeration 13. Diseases of the bladder and urethra in dogs 14. Rules for qualifying patients for anaesthesiological risk groups 15. Urinary track obstrucion in cats.	
Examination methods:		Project	

Subject name:		Clinical pediatrics of dogs and cats	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	fundamental differences in physiology and pathology between a pediatric animal and an adult	B.W1, B.W12, B.W4, B.W6, B.W9
	W2	a full clinical examination of pediatric patient	B.W1, B.W12, B.W4, B.W6
	W3	the care of a healthy and problematic pediatric patient	B.W1, B.W3, B.W4, B.W6
	W4	infectious and non-infectious agents, epidemiology, pathogenesis and diagnosis of pediatric diseases of dogs and cats	B.W1, B.W2, B.W5, B.W6, B.W8, B.W9
	W5	the principles of antibiotic therapy in pediatric animals and selects treatment accordingly	B.W4, B.W5, B.W6
	W6	the correct medical nomenclature in relation to pediatric period of dogs and cats	B.W1, B.W2, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	assess the correctness of pediatric dogs and cats care	B.U1, B.U13, B.U3, B.U7
	U2	assess the patient's condition and choose the right treatment, being aware of own decisions	B.U1, B.U3, B.U5, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	communicate with colleagues and share knowledge	KS.1, KS.3, KS.5, KS.6
Course content ensuring the achievement of learning outcomes:		The course is conducted in the form of lectures and practicals. Lectures in the form of original multimedia presentations, including practical and clinical aspects, practicals using biological material and patients of the Small Animal Clinic. During the classes students participate in care and treatment procedures. Multimedia teaching programs using the SEKTRA educational table are also used. According to an internally agreed schedule 1h / week, consultations outside the regular schedule.	
Examination methods:		Written credit, Oral credit	

Subject name:		Daily clinical practice	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	a differential diagnosis based on clinical examination	B.W1, B.W2, B.W3, B.W4, B.W5
Skills: (In terms of skills, the graduate can)	U1	Interprets additional diagnostic tests (blood tests, urine analysis, USG, x-ray)	B.U2, B.U3, B.U6, B.U7
	U2	processes flowcharts for differential diagnosis	B.U1, B.U2, B.U21
	U3	present the plan of treatment	B.U13, B.U8, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	consult the case with other students and modify the the treatment and diagnostic recommendations	KS.1, KS.2, KS.3, KS.4, KS.5
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Presentation	

Subject name:		Equine diseases clinical cases	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how to perform a general and detailed examination using both the manual methods and additional tools	B.W1, B.W2, B.W3, B.W4, B.W5
Skills: (In terms of skills, the graduate can)	U1	assess the status of each system through general and specific examination of the horse and apply adequate treatment, apply adequate methods and tools to clinically diagnose health problems, perform interview to get detailed information on specified cases	B.U10, B.U11, B.U12, B.U13, B.U2, B.U3, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	work in field circumstances and in the clinic, student effectively solve problems with the help of the personnel	KS.1, KS.10, KS.2, KS.3, KS.4, KS.5, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Report, Assessment of activity during classes	

Subject name:		Exotic animals medicine	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the anatomy and physiology of selected species of exotic animals	B.W2, B.W3
	W2	conducting a clinical examination, what additional tests to perform and how to collect samples for additional tests	B.W4, B.W5, B.W6
	W3	the most important infectious and invasive diseases occurring in exotic animals	B.W10, B.W8
	W4	the most common deficiency, metabolic, endocrine and neoplastic diseases of exotic animals	B.W1, B.W13, B.W2, B.W9
	W5	the rules and methods of therapy for exotic animals	B.W2, B.W3, B.W4
Skills: (In terms of skills, the graduate can)	U1	conduct a clinical trial	B.U1, B.U2, B.U3, B.U5
	U2	perform an necropsy, prepares a necropsy protocol and correctly interprets its results	B.U16, B.U6
	U3	perform basic therapeutic procedures	B.U10, B.U11, B.U13, B.U4, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	formulate opinions about the state of health of exotic animals, which he/she examined	KS.1, KS.4, KS.5, KS.7
	K2	formulate a decision on the appropriate treatment of exotic animals	KS.1, KS.10, KS.4, KS.5, KS.8
	K3	critically assesses knowledge, update it and share experience with other veterinarians and animal owners	KS.4, KS.6, KS.7, KS.8, KS.9
	K4	regularly use the deepening of knowledge and using scientific sources	KS.4, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Test (written or computer based), Report, Assessment of work in the laboratory, Assessment of activity during classes	

Subject name:		Horse dentistry	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	anatomy of the head of horse, selected oral diseases in horse, procedures in the field of dental surgery for horse	B.W1, B.W10, B.W13, B.W15, B.W2, B.W3, B.W4, B.W5, B.W6, B.W7, B.W8, B.W9
Skills: (In terms of skills, the graduate can)	U1	independently interview and examine the patient in preserved consciousness and under general anesthesia recognize selected oral diseases in horse carry out surgical procedures: te eth extractions, soft tissue suturing	B.U1, B.U10, B.U11, B.U12, B.U13, B.U14, B.U15, B.U2, B.U3, B.U4, B.U5, B.U6, B.U7, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	independently carry out selected oral procedures in horse analytically think and combine facts based on acquired knowledge and implement during animal treatment	KS.1, KS.10, KS.2, KS.3, KS.4, KS.5, KS.6, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Assessment of speeches during classes, Assessment of activity during classes	

Subject name:		Intensive care of dogs and cats	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	causes, symptoms and clinical picture of the most common canine and feline emergencies	B.W2, B.W3, B.W4, B.W5, B.W6
	W2	diagnostic methods used for a proper diagnosis of the most common canine and feline emergencies	B.W3, B.W4, B.W5, B.W6
	W3	therapeutic methods used in the treatment of the most common canine and feline emergencies	B.W3, B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	diagnose the most common canine and feline emergencies	B.U2, B.U3
	U2	choose the most appropriate diagnostic methods based on the observed clinical signs of the most common canine and feline	B.U2, B.U3, B.U4
	U3	propose the most efficient therapeutic approach for chosen canine and feline emergencies	B.U13, B.U3, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	plan and guide the diagnostic process of the most common canine and feline emergencies	KS.5
	K2	take responsibility for his decisions concerning humans, animals and environment	KS.1, KS.2
	K3	constantly update knowledge and skills for professional development, communicate with co-workers and share the knowledge	KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Oral credit, Assessment of activity during classes	

Subject name:		Introduction to cynology and dog show essentials	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	dog breeds standardization	B.W11, B.W12
	W2	cynological terms	B.W11
	W3	code of ethics of veterinary surgeon in the field of cynology	B.W9
	W4	the breeding ethics	B.W12, B.W9
	W5	sources of knowledge about advances in cynology	B.W11, B.W12
	W6	show rules	B.W11, B.W12
	W7	importance of genetics in dog breeding	B.W11
Skills: (In terms of skills, the graduate can)	U1	correctly analyze unbiased sources of knowledge advances in cynology	B.U20
	U2	analyse breed standard/pedigree	B.U20
	U3	evaluate a dog in cynological way	B.U20
	U4	evaluate effects of genetic disorders on breeding	B.U20
	U5	analyze the welfare of puppies	B.U20
Social competences: (Within the scope of competence, the graduate is ready to)	K1	prepared to cooperate with breeders and specialists in other fields dealing with dogs/cats	KS.8, KS.9
	K2	prepared to search for current unbiased sources of knowledge and lifelong learning	KS.4, KS.8
	K3	critical evaluation of knowledge in the field of dog/cat breeds	KS.5, KS.7
	K4	share own knowledge on the subject of dog/cat breeds using the knowledge of others	KS.9
	K5	show responsibility for decisions taken – animals' welfare	KS.1
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Project, Assessment of activity during classes, Assessment of speeches during classes	

Subject name:		Management of life-threatening situations in small animal anaesthesia	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basic interpretation of monitoring parameters during anesthesia	B.W3, B.W4
	W2	which drug to choose depending on the emergency state during anesthesia	B.W3
Skills: (In terms of skills, the graduate can)	U1	make a decision on the proper anesthetic plan (drug, indication) according to the animal's concurrent diseases prior to anesthesia procedure	B.U4
	U2	create analgesia plan based on the clinical state of the animal	B.U4
	U3	diagnose life-threatening state during anesthesia	B.U4
Social competences: (Within the scope of competence, the graduate is ready to)	K1	decide which drug to use in life-threatening states during anesthesia and create analgesia plan according to the severe state of the animal	KS.10
Course content ensuring the achievement of learning outcomes:		Students attending the course will participate the discussion of correct proceedings in emergency states during anesthesia. The course will encompass anesthesiological complications, pain management and anesthesia of the animals with concurrent diseases.	
Examination methods:		Test (written or computer based)	

Subject name:		Management of veterinary practice	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how to manage veterinary practice as an element of economic processes of animal production and pets keeping.	B.W22
Skills: (In terms of skills, the graduate can)	U1	to plan, organize, evaluate and develop veterinary practice and veterinary activities on the dynamically changing work market.	A.U20, B.U20
Social competences: (Within the scope of competence, the graduate is ready to)	K1	critically evaluate personal actions and actions of others to improve professional conduct.	KS.6
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Case, Project	

Subject name:		Mastitis prevention and treatment in dairy herds	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the rules of clinical evaluation and animal health monitoring;	B.W5
	W2	conditions of animal welfare	B.W9
Skills: (In terms of skills, the graduate can)	U1	interpret the results of additional methods of diagnosis of mastitis	B.U7
	U2	apply adequate methods of mastitis prevention	B.U3
Social competences: (Within the scope of competence, the graduate is ready to)	K1	works in a team, and have a good communication with the animal owner / keeper	KS.10, KS.3
	K2	independently makes clinical diagnosis	KS.4, KS.5
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Test (written or computer based), Assessment of activity during classes	

Subject name:		Neonatology of dogs and cats	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	fundamental differences in physiology and pathology between a newborn and an adult, the care of a healthy and problematic newborn, correctly interprets the result of a clinical trial, infectious and non-infectious agents, epidemiology, pathogenesis and diagnosis of puppy and kitten diseases the principles of antibiotic therapy in puppies and selects treatment accordingly, the correct medical nomenclature in relation to neonatology of puppies and kittens	B.W1, B.W3, B.W4, B.W6
Skills: (In terms of skills, the graduate can)	U1	assess the viability of the newborn, collect an interview and conduct a full clinical examination, give first aid to the weakened newborn and implements appropriate treatment, diagnose the most common, diseases and malformations of newborn dogs and cats	B.U1, B.U13, B.U3
Social competences: (Within the scope of competence, the graduate is ready to)	K1	assess the correctness of care for newborns in the farming facility, assess the patient's condition and choose the right treatment, being aware of own decisions constantly deepen his/her knowledge and cooperate with other veterinarian	KS.1, KS.4, KS.5, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:		The course is conducted in the form of lectures and practicals. Lectures in the form of original multimedia presentations, including practical and clinical aspects, practicals using biological material and patients of the Small Animal Clinic. During the classes students participate in care and treatment procedures. Multimedia teaching programs using the SEKTRA educational table are also used	
Examination methods:		Written credit	

Subject name:		Small animal bone and joint surgery	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	disorders on the organ and system levels occurring in the course of the orthopedic disease. how to diagnose an orthopedic problem in an animal and chooses treatment	B.W1, B.W2, B.W3, B.W4
Skills: (In terms of skills, the graduate can)	U1	carry out full clinical evaluation, formulates clear case studies and knows how to create documentation according to the current laws and regulations, in the form understandable for the owner of the animal and clear for other veterinary surgeons. perform first aid procedures	B.U10, B.U2, B.U3, B.U4
Social competences: (Within the scope of competence, the graduate is ready to)	K1	to operate in the interdisciplinary team develops a habit of constantly updating his knowledge and skills and knows his limitations,	KS.7, KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Presentation, Assessment of work in the laboratory	

Subject name:		Small animal dermatology	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	various dermatological diseases including auto-immune mediated diseases, sex-hormone related dermatoses and keratinization disorders.	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6
	W2	how to make a list of differential diagnosis for each dermatological problem	B.W4
Skills: (In terms of skills, the graduate can)	U1	perform dermatological examination and dermatological tests (eg. skin scrape, trichogram, Wood's lamp test, cytology)	B.U1, B.U3, B.U6
	U2	analyse and correctly interpret the results of dermatological tests	B.U2, B.U3, B.U6
	U3	diagnose dermatological patients.	B.U1, B.U2, B.U3, B.U6
	U4	decide about proper treatment	B.U10, B.U9
Social competences: (Within the scope of competence, the graduate is ready to)	K1	formulate conclusions regarding the health condition of the patient based on the signalment, history, clinical and dermatological examination	KS.1, KS.2, KS.5, KS.7
	K2	make proper interview with the owner of dermatological patient	KS.3, KS.5, KS.6, KS.7
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Written credit, Assessment of activity during classes	

Subject name:		Surgery of genital organs of dogs and cats (solo castration)	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	differentiates the normal and abnormal reproductive mechanisms	B.W1, B.W12, B.W4, B.W5
	W2	the clinical manifestations of reproductive mediated diseases and knows other diseases with similar clinical appearance	B.W1, B.W2, B.W3, B.W5, B.W6
	W3	the diagnostic schemes and protocols (including differential diagnosis) for reproductive diseases	B.W1, B.W3, B.W4, B.W5, B.W6
	W4	the therapeutic schemes and protocols recommended for reproductive diseases, pharmacodynamics properties of recommended products	B.W1, B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	describe the mechanisms of reproductive diseases	B.U1, B.U13, B.U3, B.U6
	U2	use the current nomenclature	B.U1, B.U3, B.U6
	U3	plan the diagnostic procedures (including differential diagnosis) in the reproductive diseases	B.U1, B.U3, B.U6
	U4	plan and monitor the treatment strategies	B.U1, B.U2, B.U3, B.U5
Social competences: (Within the scope of competence, the graduate is ready to)	K1	make decisions based primarily on the animal welfare	KS.1, KS.10, KS.5, KS.8
	K2	create opinion about understand the onset of the disease, clinical appearance and therapeutic process in the context of normal and abnormal reproductive functions	KS.1, KS.2, KS.3, KS.5
	K3	the necessity of constant education using scientific sources	KS.1, KS.2, KS.3, KS.5
Course content ensuring the achievement of learning outcomes:		The program is conducted in the form of practical training. Topics of practical training include diagnostics of estrous cycle phases, pregnancy detection, physical examination, complementary diagnostic methods used in gynaecology and obstetrics, contraception (including gonadectomy), identification of the causes of infertility, basic therapeutic methods and procedures, surgical treatment in gynaecology, obstetrics and diseases of mammary gland	
Examination methods:		Assessment of activity during classes	

Subject name:		Ultrasound diagnostics in companion animals	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how to use USG machines, goals of the USG examination in pets and horses, principles of most common examination technique (transrectal, transabdominal using various types of probes).	B.W3, B.W4, B.W5
Skills: (In terms of skills, the graduate can)	U1	use ultrasound diagnostic methods used in small animals.	B.U3, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	able to work in a team, makes a diagnosis independently, good communication with the animal owner/keeper, independently makes clinical diagnosis.	KS.1, KS.2, KS.4, KS.5, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Report, Assessment of activity during classes	

Subject name:		Ultrasound diagnostics of the reproductive tract in farm animals	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the operation of the ultrasound apparatus.	B.W6
	W2	the procedure of ultrasound examination of the reproductive system in farm animals	B.W4, B.W5
Skills: (In terms of skills, the graduate can)	U1	supports the ultrasound device itself	B.U7
	U2	independently diagnose the reproductive tract and determine the clinical condition	B.U3
Social competences: (Within the scope of competence, the graduate is ready to)	K1	work in a team,	KS.10, KS.3
	K2	Independently makes clinical diagnosis	KS.4, KS.5
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Test (written or computer based), Assessment of activity during classes	

Subject name:		Veterinary oncology	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	how to collect tissue samples (biopsies) for histological examination goals of the treatment in small animal oncology basic biological mechanisms of carcinogenesis most common diagnostic methods used in small animal oncology principles of most common treatment methods (chemotherapy, surgery of cancer and others)	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6, B.W8
Skills: (In terms of skills, the graduate can)	U1	collect tissue samples (biopsies) for histological examination, diagnose and treat oncological small animals (chemotherapy, surgery of cancer and others).	B.U10, B.U11, B.U12, B.U13, B.U2, B.U3, B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	work in a team; Independently makes clinical diagnosis	KS.10, KS.3, KS.4, KS.5
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Report, Assessment of activity during classes	

Subject name:		Welfare and rehabilitation of horses	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the basis of horses welfare	B.W11, B.W9
	W2	the principles, safety rules and procedures of kinesitherapy	B.W4, B.W6
	W3	the principles, safety rules and procedures of massage, stretching and taping	B.W4, B.W6
Skills: (In terms of skills, the graduate can)	U1	conduct an interview and a clinical trial aimed at selecting or excluding the use of rehabilitation technique	B.U1, B.U2, B.U3
	U2	prepare the horse for rehabilitation	B.U1, B.U3, B.U5
	U3	use scientific sources in assessing the results a rehabilitation therapy	B.U3, B.U7
Social competences: (Within the scope of competence, the graduate is ready to)	K1	use the knowledge and benefits of using rehabilitation techniques;	KS.1, KS.2, KS.4, KS.5
	K2	acquire competence in cooperation with a horses owners, breeders and trainers.	KS.3, KS.5, KS.6, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Assessment of activity during classes	

Subject name:		Veterinary otology	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the anatomy of the head of dogs and cats	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6
	W2	selected ear diseases in dogs and cats	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6
	W3	procedures in the field of ear diagnostics and surgery for dogs and cats.	B.W1, B.W2, B.W3, B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	independently interview and examine the patient in preserved consciousness and under general anesthesia	B.U2, B.U3
	U2	recognize selected ear diseases in dogs and cats	B.U3, B.U4
	U3	carry out surgical procedure such as Total Ear Canal Ablation (TECA), Ventral Bulla Osteotomy (VBO), Lateral Bulla Osteotomy (LBO)	B.U11, B.U13
Social competences: (Within the scope of competence, the graduate is ready to)	K1	independently carry out selected ear procedures in dogs and cats	KS.1, KS.10, KS.2, KS.4, KS.5, KS.6, KS.7, KS.8, KS.9
	K2	analytically think and combine facts based on acquired knowledge and implement during animal treatment	KS.1, KS.2, KS.4, KS.5, KS.6, KS.7, KS.8
Course content ensuring the achievement of learning outcomes:		As part of the course, knowledge about small animals otology, especially dogs and cats will be provided. Teaching takes place in groups of several people. During the course, students will acquire skills to describe and identify disease entities in a given species, using the correct denominations. The specificity of the course will include issues such as: morphology of vestibulocochlear organ and its morphological and physiological connections with nervous system, etiology, pathogenesis and therapy of selected ear diseases in dogs and cats, as well as curative and surgical procedures in these species. Classes will be conducted in the form of lectures (6h) each time preceding the exercises (9h) for each group. The lectures are always an introduction to the subject of conducted exercises. The lectures are always an integral introduction to the tutorials covering manual issues that were presented during the theoretical part of the lectures	
Examination methods:		Written credit	

Subject name:		Equine geriatrics and chronic diseases	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the pathomechanisms and clinical course of diseases	B.W3
	W2	the rules for conducting interviews and physical examination of animals	B.W5
	W3	the rules for treating diseases	B.W3
	W4	the principles of differential diagnosis of diseases	B.W4
	W5	the principles of disease monitoring based on clinical data and the results of laboratory and additional tests	B.W6
	W6	the rules of conducting medical and veterinary documentation	B.W6
Skills: (In terms of skills, the graduate can)	U1	get history taking about animal's disease and environment	B.U2, B.U5
	U2	safely conduct a veterinary medical examination of the animal	B.U1, B.U3
	U3	based on the interview and general examination knows how to coordinate and perform the appropriate detailed examination and additional tests	B.U3, B.U4
	U4	carry out differential diagnostics	B.U3, B.U4
	U5	coordinate appropriate treatment with the patient - including pharmacotherapy, diet therapy	B.U10, B.U13, B.U9
	U6	conduct medical and veterinary documentation	B.U6
	U7	collect material for additional tests and interpret the results obtained	B.U6
Social competences: (Within the scope of competence, the graduate is ready to)	K1	take responsibility for his actions and decisions	KS.1
	K2	presents an attitude consistent with veterinary deontology and the Veterinary Doctor's Code of Ethics	KS.2
	K3	aware of the continuous development of science and is ready to expand and update knowledge	KS.4, KS.8
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Essay, Assessment of activity during classes	

Subject name:		Endocrinology of companion animals	ECTS: 2
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the major pathologies associated with endocrinological disorders; the diagnostic algorithms used in clinical endocrinology; basic treatment protocols in endocrinological diseases	A.W10, A.W11, A.W16, B.W3, B.W4, B.W5, B.W6
Skills: (In terms of skills, the graduate can)	U1	use basic diagnostic algorithms; conduct an interview and to make differential diagnostic of endocrine disease; gather the patient's history; interpret the basic diagnostic tests, propose the differential diagnosis and treatment protocol.	A.U12, A.U13, A.U14, A.U15, A.U16, A.U21, A.U4
Social competences: (Within the scope of competence, the graduate is ready to)	K1	propose to the owner an optimal treatment; formulate responsible decisions and give the diagnosis based on medical data; aware of having knowledge, understands the necessity of consultancy and is prepared to share the competencies with the veterinary team and the animal's owner; aware of the necessity of constant education using scientific sources	KS.1, KS.2, KS.3, KS.4, KS.5, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Assessment of activity during classes, Presentation	

Subject name:		From symptom to diagnosis	ECTS: 1
Effects:		The content of the effect assigned to the subject:	Directional effect reference:
Knowledge: (In terms of knowledge, the graduate knows and understands)	W1	the major pathologies associated with cats and dogs most common disorders; the diagnostic algorithms used in clinical practise; basic treatment protocols in most common diseases	B.W3, B.W4, B.W5, B.W6, B.W9
Skills: (In terms of skills, the graduate can)	U1	use basic diagnostic algorithms; conduct an interview and to make differential diagnostic of most common disease; gather the patient's history; interpret the basic diagnostic tests, propose the differential diagnosis and treatment protocol.	B.U1, B.U10, B.U13, B.U2, B.U3
Social competences: (Within the scope of competence, the graduate is ready to)	K1	propose to the owner an optimal treatment; formulate responsible decisions and give the diagnosis based on medical data; having knowledge, understands the necessity of consultancy and is prepared to share the competencies with the veterinary team and the animal's owner; the necessity of constant education using scientific sources	KS.1, KS.10, KS.2, KS.3, KS.4, KS.5, KS.7, KS.8, KS.9
Course content ensuring the achievement of learning outcomes:			
Examination methods:		Case	

Programme indicators

2023/24/S_D/5/WET/FVM/all

Name	Value
Potwierdzenie – na podstawie planu studiów, że student realizuje zajęcia z dziedziny nauk humanistycznych i/lub społecznych, którym przypisano nie mniej niż 5 punktów ECTS	6
Potwierdzenie – na podstawie planu studiów, że student ma możliwość wyboru zajęć, którym łącznie przypisano liczbę punktów ECTS nie niższą niż 30% ECTS określonych dla programu tych studiów	41/360 (11.39%)
Potwierdzenie, że program studiów o profilu ogólnoakademickim obejmuje zajęcia związane z prowadzoną w uczelni działalnością naukową, w wymiarze większym niż 50% liczby punktów ECTS, określonej dla programu tych studiów	309.72/360 (86.03%)
Potwierdzenie, że liczba punktów ECTS uzyskanych w programie studiów poprzez realizację zajęć z wykorzystaniem metod i technik kształcenia na odległość jest nie wyższa niż 75% ogólnej liczby punktów ECTS w programie studiów o profilu ogólnoakademickim	0/360 (0%)
Liczba godzin w programie	5634
Liczba godzin zajęć i praktyk	5634
Liczba punktów ECTS konieczna do ukończenia studiów	360
Liczba godzin w grupie zajęć A. Zajęcia w zakresie nauk podstawowych	1385
Liczba ECTS w grupie zajęć A. Zajęcia w zakresie nauk podstawowych	103.5
Liczba godzin w grupie zajęć B. Zajęcia w zakresie kierunkowym	2380
Liczba ECTS w grupie zajęć B. Zajęcia w zakresie kierunkowym	157.5
Liczba godzin w grupie zajęć C. Zajęcia uzupełniające	225
Liczba ECTS w grupie zajęć C. Zajęcia uzupełniające	15
Liczba godzin w grupie zajęć D. Staże kliniczne	400
Liczba ECTS w grupie zajęć D. Staże kliniczne	22
Liczba godzin w grupie zajęć E. Praktyki zawodowe	560
Liczba ECTS w grupie zajęć E. Praktyki zawodowe	21
Liczba godzin w programie	5634