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| Module code | M_WE SEM8 CHZG1 |
| Field of study | Veterinary medicine |
| Module name, also the name in English | Diseases of farm animals. Block I Choroby zwierząt gospodarskich. Blok 1 |
| Language of instruction | English |
| Module type | obligatory |
| Level of studies | Long-cycle master's degree studies |
| Form of study | Full-time |
| Year of study in the field of study | IV |
| Semester of study in the field of study | VIII |
| ECTS credits, divided into contact/non-contact hours | 7.0 (4.0/3.0) |
| Academic title/degree, name of the person responsible for the module | Prof. dr hab. Krzysztof Lutnicki |
| Unit teaching the module | Department and Clinic of Internal Animal Diseases, Department and Clinic of Animal Reproduction, Faculty of Veterinary Medicine, University of Life Sciences in Lublin |
| Module objective | <p>The program includes knowledge of internal diseases and elements of livestock reproduction in veterinary practice. Providing students with the knowledge and practical skills necessary to practice as a veterinarian in the field of internal diseases and elements of livestock reproduction, familiarisation with the clinical picture of internal diseases, principles of therapeutic and prophylactic procedures, learning about the mechanisms of the formation and development of internal and selected diseases in reproduction. Skills in the diagnosis, differentiation, prevention, and treatment of livestock internal diseases, learning the specifics of livestock reproduction, newborn care, and the diagnosis, treatment, and prevention of mammary gland diseases.</p> <p>The student receives basic information on how to conduct an interview and diagnose internal diseases and the use of laboratory and imaging tests in the treatment and prevention of internal diseases.</p> |
| The learning outcomes for the module include a description of the knowledge, skills and social competences that the student will gain after completing the module. | <p>Knowledge:</p> <p>A student knows and understands:</p> <p>K1. Etiology and pathogenesis, diagnostic methods, therapeutic management and prevention of specific internal diseases of livestock and herd</p> <p>K2. Principles of analysis and proper interpretation of clinical data and laboratory test results in internal diseases and reproduction of livestock.</p> <p>K3. Polish and Latin nomenclature of internal diseases and reproduction of farm animals</p> <p>K4. Assumptions for selecting animals for breeding and creating production groups.</p> |

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| | <p>K5. Principles of ration analysis and milk analysis result reports in the diagnosis and prevention of internal diseases</p> <p>K6. Clinical consequences of disorders of water-electrolyte, acid-base balance and principles of their compensation in internal diseases of livestock.</p> <p>Skills:</p> <p>A student can:</p> <p>S1. Use basic laboratory techniques in the diagnosis and treatment of internal livestock diseases</p> <p>S2. Select and administer appropriate chemotherapy for internal diseases with consideration of the target animal species</p> <p>S3. Apply the code of ethics of the veterinarian of internal medicine in practice.</p> <p>S4. Prepare clear descriptions of internal medicine cases, and maintain records in accordance with applicable internal medicine regulations.</p> <p>S5. The student knows and understands the social determinants of the activity of a veterinarian in the field of prevention and treatment of internal diseases and reproductive disorders of farm animals.</p> <p>S6. Estimate the danger of disease in specific technology groups of livestock</p> <p>S7. Evaluate the need for euthanasia in the event of an unsuccessful prognosis in internal medicine and appropriately inform the owner</p> <p>Social competences:</p> <p>A student is willing to:</p> <p>C1. Demonstrate an attitude consistent with the code of ethics for veterinarians</p> <p>C2. Deepen knowledge and improve skills in internal livestock diseases.</p> <p>C3. Interpersonal communication and collaboration with other professions in the prevention and treatment of internal livestock diseases.</p> |
| Prerequisites and additional requirements | According to the sequence of subjects |
| Module program content | <p>Livestock Reproduction:</p> <p><u>Exercise topics (two hours per each exercise):</u></p> <ol style="list-style-type: none"> 1. The specificity of the structure of the reproductive system in female farm animals - practical exercises on isolated organs 2. Handling the gynecologic-obstetric patient, basic health and safety rules, instruments and equipment used in veterinary gynecology and obstetrics 3. Gynecological and obstetric examination plan for female livestock 4. Physiological labor (discussion of the phases of labor and the location of the fetus in the uterus, demonstration of |

the physiological position, posture and position of the fetus on a phantom, assistance in physiological labor, pharmacological control of labor)

5. Severe labor (causes of severe labor on the part of the mother, fetus, and human being)
6. Solving heavy labor with the method of correction (practicing practical skills of repositioning the incorrect posture, position and placement of the fetus using a phantom)
7. Resolution of difficult deliveries by fetotomy (basic principles and indications for fetotomy, types of fetotomy)
8. Caesarean section as a method of resolving heavy labor (indications for caesarean section, preparation of the female for surgery, types of anesthesia, anesthetics and their dosage, techniques of performing the procedure in individual species of farm animals, postoperative procedures)
9. Diagnostics of pregnancy using clinical and laboratory methods
10. Surgical treatment of vulva and perineal injuries, vulvoplasty, methods of vulvar anesthesia, management of vaginal and uterine prolapse - surgical techniques (practical exercises on isolated organs) 4h
11. Practical classes on clinical examination of reproductive system of female livestock (technique of *per rectum* and *per vaginam* examination, discussion on basic safety rules during animal examination) 4h
12. Performance of basic therapeutic procedures in livestock reproduction (catheterisation, uterine lavage, administration of intrauterine drugs)
13. Seminar

Lecture topics (1 hour per each lecture):

1. Fertilisation and the embryo at early stages of growth
2. Recognition of pregnancy by the mother's body
3. Pregnancy of female farm animals - development and life processes of the fetus during the placental period (lecture 2 hrs).
4. Hormonal regulation of pregnancy in female livestock
5. Pathology of pregnancy in cattle (2 hr lecture).
6. The course of the postpartum period in female livestock (lecture 2 hours).
7. Pathology of the postpartum period - retention of the placenta in cows
8. Pathology of the postpartum period - inflammation of the uterus in the postpartum period in cows
9. Neurohormonal regulation of reproduction in female livestock
10. Sexual cycle in ruminants
11. Selected diseases of the vulva, vagina, cervix and fallopian tubes in cows
12. Disorders of the estrous cycle and ovarian function in cows

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| | <p>Internal Diseases of Livestock:</p> <p><u>Lecture topics:</u></p> <ol style="list-style-type: none"> 1. Selected issues in cardiovascular disease. (2 hours). 2. Selected issues in respiratory diseases; (2) 3. Selected issues in diseases of the excretory system (2) 4. Selected issues in diseases of the central and peripheral nervous system. (2 hours). 5. Selected issues in diseases caused by vitamin deficiencies. (2 hours). 6. Selected issues in diseases caused by micronutrient and macronutrient deficiencies. (4 hours). 7. Selected issues in metabolic diseases, ketosis, hepatic steatosis. (2 hours). 8. Selected issues from diseases of the digestive system; diseases of the mouth, throat and esophagus. (2 hours). 9. Selected issues in diseases of the digestive system; diseases of the forestomach and abomasum. (4 hours). 10. Selected issues in diseases of the digestive system; simple, alkaline and acid indigestion. (2 hours). 11. Selected issues in gastrointestinal diseases; diseases of the intestines. (2 hours). 12. Musculoskeletal diseases of non-traumatic background. (2 hrs.). 13. Selected issues in livestock endocrinology (2 hours). <p><u>Exercise topics:</u></p> <ol style="list-style-type: none"> 1. Clinical differential diagnosis and treatment of respiratory diseases of livestock. (4 hours) 2. Clinical differential diagnosis and therapy of cardiovascular disease in livestock. (2 hours) 3. Gastrointestinal diseases - differential diagnosis, diagnosis and treatment of livestock diseases. (9 hours) 4. Diseases of the excretory system - diagnosis and treatment of diseases of the excretory system of livestock. (2 hours) 5. Metabolic and deficiency disorders - clinical presentation, diagnosis and treatment of metabolic diseases of livestock. (6 hours) 6. Principles of fluid therapy in livestock. (3 hours) 7. Analysis of laboratory results in livestock. (4 hours) |
| <p>List of core and supplementary literature</p> | <p>Internal Diseases of Livestock:</p> <ol style="list-style-type: none"> 1. Gerrit Dirksen, Hans-Dieter Gründer Diseases of farm animals 2. Stöber: Internal diseases and bovine surgery. 3. Scott W. Danny; Atlas of skin diseases of farm animals 4. Blowey R., Weaver A. : Atlas of bovine diseases. Urban & Partner 5. Divers T, Peek T. : Diseases of dairy cattle, Elsevier 6. Radostits O. M., Gay C. C., Blood D. C., Hinchcliff K. W. : Veterinary Medicine, 1999. |

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| | <p>7. Smith B.P.: Large Animal Internal Medicine, 1990.</p> <p>8. Wingfield W.E.: Veterinary emergency medicine secrets, 1997.</p> <p>Livestock Reproduction:</p> <ol style="list-style-type: none"> 1. Reproduction in farm animals: E.S.E. Hafez -, Wiley 2016 2. Peter G. G. Jackson ; il. John Fuller Veterinary obstetrics. Elsevier Urban & Partner, cop. 2010 3. Reproduction and Obstetrics: D.E. Noakes, T.J. Parkinson, G.C.W. England Veterinary 9th ed. Sauders, Elsevier, 2009 4. Large Animal: R.F. Youngquist, W.L.. Threlfall Theriogenology. 2nd ed. Saunders, Elsevier. 2007 5. P. Gamcik, J. Sakala. Fertility disorders in cattle 6. Pathways to pregnancy and parturition P.L. Senger -, 2005 |
| <p>Planned forms/activities/teaching methods</p> | <p>Lectures:</p> <ul style="list-style-type: none"> - multimedia presentations by employees responsible for conducting lectures <p>Laboratory classes:</p> <ul style="list-style-type: none"> - conducting and discussing clinical case studies, analysis of results, discussion, seminars <p>Clinical Classes:</p> <p>Clinical examination of animals in specific diseases</p> <p>Treatment of clinical cases</p> <p>Analysis of test results</p> <p>Collection of material</p> <p>Consultations for students as determined by the coordinator at the beginning of the semester</p> |
| <p>Verification methods and ways of documenting the achieved learning outcomes.</p> | <p>K - credit for the block is given on the basis of positive results obtained from passing exercises in block subjects in a test form and the arithmetic mean of these grades.</p> <p>For credit in Livestock Reproduction, all class attendance is required or according to current course regulations, passing grades on all "entrance exams," and a passing grade on the course.</p> <p>For credit in Internal Diseases of Farm Animals, attendance (the number of absences depends on the regulations of studies) and a test pass in the form of exam are required</p> <p>S - assessment of self-performed procedures (clinical examination, diagnostic procedure, treatment process proposal) by the instructor,</p> <p>C - participation in the discussion, answering questions at the beginning of each laboratory classes, colloquia.</p> <p>Grading scale according to Book of Education Quality</p> |

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| ECTS credits | <ul style="list-style-type: none"> • Lecture attendance – 45 hours • Participation in classes - 60 hours • Preparation for laboratory exercises - 26 hours • Participation in consultations connected with preparation for the credit - 4 hrs • Preparation for the credit - 40 hrs. • Attendance for credit - 3 hrs. <p>Total student workload - 178 hours, which equals 7.0 ECTS credits</p> |
| The workload of activities that requires direct participation of an academic teacher | <p>The workload related to the classes requiring direct participation of academic teachers:</p> <ul style="list-style-type: none"> • Lecture attendance – 45 hours • Class attendance – 60 hours • Participation in consultations connected with preparation for the credit - 4 hrs • Attendance for credit - 3 hrs. <p>A total of 112 hours, which corresponds to 4 ECTS credits</p> |
| Relation of module learning outcomes to course learning outcomes. | <p>K1 – B.W3. ++, K2 – B.W6. ++, K3 – A.W20. ++, K4 – B.W12. ++, K5 – B.W.14. ++, K6 – B.W.2 ++</p> <p>S1 – B.U6. ++, S2 – B.U10. ++, S3 – A.U16. ++, S4 – A.U14. ++, S5 – A.U15. ++, S6 – B.U8. ++, S7 – B.U15. ++, S8 – B.U11. ++, S9 – B.U19.++</p> <p>C1 – K2++, C2 – K8++, C3 – K9++, K11++, C4 – K10++</p> |
| Elements and values affecting the final grade | <p>Final grade:</p> <p>Assessment in Livestock Reproduction (50% weightage)</p> <p>Assessment in Internal Medicine of Livestock (50% weightage)</p> |