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Course title: REPRODUCTION AND OBSTETRICS OF FARM ANIMALS I

ECTS credit allocation (and other scores): 4

Semester: autumn

Level of study: ISCED-7- long-cycle programmes (EQF-7)

Branch of science: Agricultural sciences

Language: English

Number of hours per semester: 75

Course coordinator/ Department and e-mail: Tomasz Janowski, jantom@uwm.edu.pl

Type of classes: classes and lectures

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#### Substantive content

**CLASSES:** The students get acquainted with clinical ultrasound examination of genital tract including pregnancy detection, structure and function of the ovaries and uteri (isolated organs), palpation of ovaries and uteri (organs, simulator), rectal palpation on living animals, vaginoscopy and catheterization uterine cervix and horns, clinical examination of mammary gland and obtaining of milk samples construction and function of milk machines and their relation to mastitis. The students train also surgery of mammary gland (isolated organs and living animals) and practical methods mastitis treatment. Students get to know obstetrical examination (physiological parturition/dystocia), obstetrical assistance (correction of position and posture), fetotomy (theory and practical part on dead fetuses), caesarean operation, epidural anaesthesia and surgery of external reproductive tract. The students get to know diagnosing and treatment methods of reproductive disorders in small ruminants and pigs

**LECTURES:** Main goal of the lectures is to acquainted students with the particularities of reproduction in farm animals and their veterinary control considering different species. Moreover, there are presented clinical and laboratory diagnostic methods, hormonal treatment methods, of reproductive disorders. ovarian dysfunction, anoestrus, cystic ovarian disease, delayed ovulation, corpus luteum pseudogaviditatis, other ovarian disorders; endometritis, metritis and its diagnosing and treatment; specificity of beef cows reproduction, mastitis in milk cows-classification, ethiology and pathogenesis, diagnosis, and treatment in the herd, other disorders of the udder.

Moreover pregnancy and its diagnosing methods, embryonal mortality and abortions, other pregnancy disorders (uterine torsion, prolapsed of the cervix and vagina metabolic disorders), main postpartal disorders (retained membranes, metritis, uterine prolapsed) are discussed. In turn, metabolic and endocrine status of milk cows during puerperium as well as the methods of clinical and hormonal management, of bovine reproduction are presented, including methods of assisted reproductive technologies. Moreover, the students are acquainted with the reproduction of sheep and goats (particular features medical and non-medical oestrus control, pregnancy diagnosis) and its main disorders (abortion, malformations, hydrometra, management factors (infectious factors) pregnancy toxemia). Also fertility and infertility in pigs are presented (examination methods, fertility indices and their evaluation, anoestrus and its causes and hormonal treatments, mammary gland disorders, infectious factors in pig reproduction, management methods.

**Learning purpose:** general goal is to acquaint students with theoretical knowledge of reproductive physiology and pathology in farm animals (bovine, small animals, pigs) as well as to acquire practical skills of veterinary control.

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On completion of the study programme the graduate will gain:

**Knowledge:** Student is able to define and discuss the structure and function of reproductive tract considering species specificity, disorders of female reproductive tract, clinical and laboratory methods of disorders diagnosing,



management of herd infertility, methods of obstetrical assistance, diagnosing and treatment of neonates diseases. Student also know basic knowledge of reproductive biotechnics and biotechnology

**Skills:** Students acquire skills of diagnosing and treatment of female reproductive tract disorders, diagnosing and prevention of herd infertility, giving of obstetrical assistance in dystocia, taking care of neonates and diagnosing and treatment of their disorders, use of biotechnology techniques, diagnosing of pregnancy and oestrus cycle phases, diagnosing, treatment and prevention of mammary gland disorders

**Social Competencies:** Student is able to analyze and solve problems of farm animals reproduction, to follow of veterinary deontology rules and the rules of animal welfare, student is able to cooperate with animals owners and state veterinary inspection; moreover student is able to advice and discuss current veterinary and economic problems of reproduction in livestock.

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- Basic literature: 1) Baier, W., Schaetz F. , 1978r., "Położnictwo weterynaryjne", wyd. PWRiL Warszawa , s.15-375,  
2) Bielański, A., Tischner, M., 1997r., "Biotechnologia rozrodu zwierząt domowych", wyd. Wyd. Drukrol w Krakowie, s.1-631,  
3) Głód, W., 1976r., "Rozród i unasiennianie bydła", wyd. PWRiL Warszawa. , s.1-320,  
4) Kurek, C., Rutkowiak, B, 1997r., "Schorzenia wymienia krów.", wyd. Państwowe Wydawnictwo Rolnicze i Leśne, s.1-240,  
5) Malinowski, E., , 1997r., "Przyczyny, leczenie i zapobieganie mastitis u krów", wyd. Piwet, Puławy,, s.1-94,  
6) Pejsak, Z., 2007r., "Ochrona zdrowia świń", wyd. PWRol., Poznań, s.18-653.
- Supplementary literature: 1) Bielański, W., 1979r., "Rozród zwierząt", wyd. PWRiL Warszawa, s.1-489,  
2) Janowski, H., , 1983r., "Choroby bydła", wyd. PWRiL Warszawa,  
3) Szweda, W., Janowski, T. (red.), , 1997r., "Szczegółowa patologia i terapia chorób świń.", wyd. Wyd. ART.,  
4) Krzymowski, T. (red.) , 2007r., "Biotechnologia Rozrodu Zwierząt. T I. Fizjologiczna regulacja procesów rozrodczych samic.", wyd. Wyd. ART. Olsztyn, t.I, s.1-762,  
5) Philpet, W. N., Nickerson S-C., , 2006r., "Zwyciężyć w walce z mastitis", wyd. Westfalia-Surge Polska Sp. z.o.o. , s.1-183.
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The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 75

Student's independent work: 25