UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN
Faculty of Veterinary Medicine

Biotechnology in horse reproduction

ECTS: 1.00

SUBJECT MATTER CONTENT

LECTURE
Lectures will be held in three thematic blocks: 1) Embryos (Embryo transfer; Cooled transported embryo technology; Freezing of embryos; Import and export of embryos; Nuclear Transfer) 2) Oocytes (Immature oocyte collection and maturation; Mature oocyte collection; Oocyte transfer; Gamete intrafallopian transfer (GIFT); Intracytoplasmic sperm injection (ICSI); Oocyte cryopreservation) 3) Semen (Principles of cryopreservation; Semen extenders for frozen semen; Freezing semen; Freezing epididymal spermatozoa; Breeding with frozen semen; Techniques for evaluating frozen semen; Storage management and distribution of frozen semen; Diseases potentially transmitted with frozen or cooled semen; Import and export of frozen semen; Low dose insemination; Sex-sorted spermatozoa)

PRACTICAL CLASSES
The exercises will be held in three blocks. Students will have teaching mares at their disposal, on which they will perform gynecological examinations and set up intrauterine catheters. A separate meeting will be devoted to the handling of semen.

TEACHING OBJECTIVE
The aim of the education is to prepare for the independent use of biotechnical methods in the reproduction of horses.

DESCRIPTION OF THE LEARNING OUTCOMES OF THE COURSE IN RELATION TO THE DESCRIPTION OF THE CHARACTERISTICS OF THE SECOND LEVEL LEARNING OUTCOMES FOR QUALIFICATIONS AT LEVELS 6-8 OF THE POLISH QUALIFICATION FRAMEWORK IN RELATION TO THE SCIENTIFIC DISCIPLINES AND THE EFFECTS FOR FIELDS OF STUDY:

Symbols for outcomes related to the discipline:	R/WA_P7S+++
Symbols for outcomes related to the field of study:	K.1.+, A.W10. +, A.U14. +, A.W12. +, A.U16. +, B.U14. +, B.W12. +, A.W13. +, K.8.+, A.W5. +, A.W4. +, B.W9. +, A.W9. +, A.W1. +, B.W5. +, A.W3. +, B.U1. +, B.U6. +, A.U8. +, A.U13. +, B.U3. +, K.4.+, B.W6. +, K.5+, A.U9. +, B.U20. +, A.U19. +, B.U7. +, A.W2. +, B.U2. +, A.W14. +, B.U11. +, B.U13. +, K.9.+, A.W11. +, A.U12. +, B.U10. +, A.U21. +

LEARNING OUTCOMES:
Knowledge:
W1 – The student knows and understands the physiology of reproduction and biotechnical methods in the equine reproduction.
Skills:
U1 – The student is able to use assisted reproductive technologies.
Social competence:

Legal acts specifying learning outcomes:
682/2020
Disciplines: Veterinary science
Status of the course: Fakultatywny
Group of courses:B - przedmioty kierunkowe
Code: ISCED 0841
Field of study: Veterinary Medicine
Scope of education:
Profile of education: General academic
Form of studies: full-time
Level of studies: uniform master's studies
Year/semester: 5/9

Types of classes: Lecture, Practical classes
Number of hours in semester: Lecture: 5.00, Practical classes: 10.00
Language of instruction: Polish
Introductory subject: anatomy, physiology, pathophysiology, horse breeding, reproduction and obstetrics of horses
Prerequisites: general knowledge of the physiology and pathology of equine reproduction, the ability to perform a gynecological examination in a mare

Name of the organisational unit conducting the course: Katedra Rozrodu Zwierząt z Kliniką
Person responsible for the realization of the course:dr hab. wet. Anna Rapacz-Leonard, prof. UWM
e-mail: anna.rapacz@uwm.edu.pl

Additional remarks:

K1 – The student is ready to show initiative in practical activities related to biotechnology in reproduction, updates the theoretical knowledge of the subject, and is aware of the benefits of biotechnology in the work of a veterinarian. He also appreciates the importance of biotechnical methods in the development of horse breeding.

TEACHING FORMS AND METHODS:

Lecture(W1;):Presentation
Practical classes(U1;K1;):practical classes on didactic mares and in the laboratory

FORM AND CONDITIONS OF VERIFYING LEARNING OUTCOMES:

Lecture (Evaluation of the work and cooperation in the group) - The content of the lecture is included in the credit from the exercises. -
Practical classes (Evaluation of the work and cooperation in the group) - Credit based on participation and activity during classes. -

BASIC LITERATURE:

1. Kosiniak-Kamysz, K., Wierzbowski, S., *Rozród koni*, Wyd. Drukrol w Krakowie, R. 2004
2. Dietz, O., Huskamp, B., *Praktyka kliniczna: konie*, Wyd. Galaktyka, R. 2008

SUPPLEMENTARY LITERATURE:

1. Angus O. McKinnon, Edward L. Squires, Wendy E. Vaala, Dickson D. Varner, *Equine Reproduction*, Wyd. Wiley, R. 2011