

Study Program: MAS Animal Science
Course Unit Title: New Technologies of Reproduction in Domestic Mammals
Course Unit Code:
Name of Lecturer(s): Dragin B. Saša
Type and Level of Studies: Master Studies – Animal Science
Course Status (compulsory/elective): Elective
Semester (winter/summer):
Language of instruction:
Mode of course unit delivery (face-to-face/distance learning): Face-to-face
Number of ECTS Allocated: 6
Prerequisites: None
Course Aims: Acquiring theoretical and practical knowledge and skills in the field of modern biotechnology methods which are used in control and stimulation of reproductive functions of male and female domestic mammals. Acquiring theoretical and practical knowledge in the field of in vitro manipulation with gametes and embryos (conservation, in vitro maturation and fertilization, reproductive cloning of early embryos, embryo transplantation, sex determination, genetic engineering).
Learning Outcomes: The student's ability to independently apply modern biotechnological methods for the management of reproductive functions of domestic mammalian species, and thus, increases their reproductive efficacy. To independently analyze the achieved results and to make an independent assessment of the success of production and to independently solve the problems of reproduction of domestic animals. To qualified for independent analysis of scientific literature, he independently carries out scientific research and makes logical and real conclusions based on the obtained research results. To acquire knowledge can be successfully transfer the acquired knowledge to other persons after the completion of studies, as well as to obtain conditions for continuation of studies at higher levels of education in the field of biotechnological sciences (doctoral studies).
Syllabus: <i>Theory: Endocrinology and physiology of male and female reproductive functions of domestic mammalian species; Biotechnology of reproduction: artificial insemination of cattle, pigs, sheep, goats and horses; embryo transplantation; manipulation with gametes and early embryos in vitro; estrus induction; superovulation induction; induction and synchronization of estrus beyond the season of mating of sheep, goats and mares; synchronized particle induction; Diagnosis of gravity; Determination of half gametes and embryos; Conservation of gametes and embryos (forming a gene bank); Specific methods of controlled reproduction of pigs, ruminants and horses.</i> <i>Practice: Anatomy and histology of male and female sexual organs of domestic mammals; Morphology and physiology of oocyte and spermatozoa; Characteristics of semen of domestic mammalian species; Quality control of sperm; Technology of conserving gametes and early embryos; Modern technologies of artificial insemination; Embryo transplantation methods; Methods of ester detection; Methods of diagnosis of gravidity.</i>

Required Reading: 1) Dragin S., Stančić I., Jotanović S.: Biotechnology in reproduction of domestic animals (textbook). Faculty of Agriculture, Novi Sad, 2016.

2) Stančić I.: Reproduction of domestic animals (textbook). Faculty of Agriculture, Novi Sad, 2008.

3) Dragin S., Stančić I., Erdeljan M.: Reproduction of domestic animals (practicum book). Faculty of Agriculture, Novi Sad, 2011.

Weekly Contact Hours: 60

Lectures: 30

Practical work: 30

Teaching Methods: Face-to-face lectures, seminar papers, discussion groups, mentoring with students, field exercises (visits to institutions and / or businesses and discussion of basic economic problems in the production of organic products).

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Active class participation	5	written exam	
Practical work	5	oral exam	50
Preliminary exam(s)	20	
Seminar(s)	20		

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.