

Module of classes:

PHENOMENOM OF SEASONALITY IN SMALL RUMINANTS

ECTS	2
Status	complementary
Form of final credit	exam
Prerequisites	passing the subject animal physiology

Field of study:

Animal Sciences

Profile of study	General-academic
The code of the form of study and the level of study	master of thesis
Semester of study	summer
Language of study	English

The leading faculty, department and the lecturer of the module: Prof. dr hab. Dorota Zięba-Przybylska

Name of the competent unit for the coordinator	Faculty of Animal Sciences, Department of Nutrition, Animal Biotechnology and Fisheries
Course coordinator	Prof. dr hab. Dorota Zięba-Przybylska

Learning outcomes of the module/subject

The code of the description component (symbol of the effect)	Description	Relation to (code)	
		field effect	discipline#

KNOWLEDGE – the student knows and/or understands:

PSSR_W1	structure of cells and tissues related to the work of the biological clock in sheep, characterizes the rhythmic functioning of cells, tissues, organs and systems of the sheep body, describes the processes of seasonality of reproduction and lactation in small ruminants.	ZOO2_W01	RZ
PSSR_W2	mechanisms of molecular processes related to the mechanism of the biological clock in all living organisms. Knows the basics of molecular genetics.	ZOO2_W05	RZ
PSSR_W3	advanced theoretical aspects of animal husbandry and breeding methods; the suitability of different animal species as models in biological and medical research.	ZOO2_W11	RZ

SKILLS – the student can: not applicable

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SOCIAL COMPETENCE- the student is ready to:

PSSR_K1	undertake actions leading to reduction of risk and predicting the effects of human activities in the area of zootechnics and animal living environment.	ZOO2_K04	RZ
PSSR_K2	solving complex decision problems related to the use of animals.	ZOO2_K05	RZ
PSSR_K3	care for animal welfare and the shaping and condition of the natural environment.	ZOO2_K06	RZ

Teaching content:

Lectures	15 hours
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Subjects of lectures	Biological rhythms - features and characteristics.
	The role of melatonin in the functioning of the biological clock of animals.
	Neurohormonal mechanism of the biological clock.
	Molecular aspects of the functioning of the biological clock in animals.
	Molecular aspects of modulation of leptin sensitivity on the level of hypothalamus - leptin resistace and photoperiod.
	The effect of day length on the course of sexual activity in sheep: regulation of gonadotropic hormone secretion and melatonin as a modulator of reproductive processes.
	The latest achievements in the world literature regarding the participation of photoperiod in the regulation of reproductive processes in ruminants.

Realized learning outcomes	PSSR_W1- W3; PSSR4_K1-K3
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Verification methods and criteria of effects evaluation	short open test
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not applicable hours

Classes (laboratories, field exercises, auditorium exercises etc. ...) **0 hours**

Subjects of the classes	
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Realized learning outcomes	not aplicable
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Verification methods and criteria of effects evaluation	not aplicable
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Seminars **0 hours**

Subjects of the seminars	
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Realized learning outcomes	not aplicable
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Verification methods and criteria of effects evaluation	not aplicable
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Literature:

Basic	Reproduction in sheep and goats. Ian Gordon. CAB International 1997. Neural control of reproduction. Ophysiology and Behavior. Japan Scientific Societies press Karger 1998.
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Supplementary	D.A. Zieba, B. Klocek, G.L. Williams, K. Romanowicz, L. Boliglowa, M. Wozniak. In vitro evidence that leptin suppresses melatonin secretion during long days and stimulates its secretion during short days in seasonal breeding ewes. Domest. Anim. Endocrinol. 2007; 33(3): 358-365. D.A. Zieba, M. Szczesna, B. Klocek-Gorka, E. Molik, T. Misztal, G.L. Williams, K. Romanowicz, E. Stepien, D.H. Keisler, M. Murawski. Seasonal effects of central leptin infusion on melatonin and prolactin secretion and on SOCS-3 gene expression in ewes. J. Endocrinol. 2008; 198: 147-155.
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Structure of learning outcomes:

Dyscipline – animal husbandry and fishery (RZ)	2	ECTS*
Dyscipline –...	...	ECTS*

Structure of student's activities:

classes carried out with direct participation of the teacher	25	hours	1	ECTS*
including:				
lectures	15	hours		
classes and seminars	0	hours		
consultations	7	hours		

participation in research	0	hours		
mandatory practices and internships	0	hours		
participation in the exam and credits	3	hours		
classes carried out with the use of e-learning	0	hours	0	ECTS*
student's own work	25	hours	1	ECTS*

) * - Reported to the nearest to 0,1 ECTS, where 1 ECTS = 25-30 hours of classes

) # discipline code: RZ - zootechnics and fishery, PB - biological sciences