COURSE LAYOUT

1. GENERAL

SCHOOL	Animal Biosciences		
DEPARTMENT	Animal Science		
STUDY LEVEL	Bachelor		
COURSE CODE	166	**SEMESTER**	5th
COURSE TITLE	The Physiological bases of Farm Animal Reproduction and Lactation		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**ECTS**
Theory	2	2
Laboratory Practicals	2	3
		5

COURSE TYPE	Field of Science
PREREQUISITES	-
LANGUAGE	Greek
IS THE COURSE OFFERED forERASMUS STUDENTS?	Yes (in English)
COURSE WEB PAGE (URL)	https://mediasrv.aua.gr/eclass/courses/EZPY211/
TEACHING STAFF	Theory: Politis I., Charismiadou M., Theodorou G., Christodoulopoulos G. Laboratory: Charismiadou M., Theodorou G., Goliomytis M., Kalogiannis D.

2. LEARNING OUTCOMES

Learning Outcomes

The course "THE PHYSIOLOGICAL BASES OF FARM ANIMAL REPRODUCTION AND LACTATION" aims to familiarize students, in theoretical and practical level, with the contemporary physiological aspects applied in mechanisms of productive animal reproduction and lactation.
In particular, lectures and practice focus on the understanding of:
1. The factors that influence the conception rate, the duration of gestation and parturition but also the factors used for the estimation of the reproductive potential (prolificacy rate, viability rate, profitability rate).
2. The factors that affect the process of milk production, the growth of mammary gland and the development of lactation in ruminants.

General Competenses

- Individual and group work
- Producing new research ideas

- Promotion of free, creative and inductive thinking

3. COURSE CONTENT

Applied animal reproduction: basic elements of female and male reproductive system. Life cycle, spermatogenesis, ovigenesis, insemination, differentiation of genital systems. Differentiation of sexes. Egg and sperm transport, capacitation of spermatozoa, entry into ovum, pronucleus formation. Hormones, control of estrous cycle, control of puberty and seasonality.

Structure of the udder. Morphology and texture of mammary gland. Milk composition. Mammogenesis. Growth and evolution of mammary gland. Hormonal regulation. Milk synthesis and secretion. Initiation and maintenance of lactation. Metabolism on mammary gland function. Mammary involution. Factors affecting lactation.

4. TEACHING and LEARNING METHODS - EVALUATION

TEACHING METHOD	In classroom, face to face, in laboratory and in the field.
USE OF INFORMATICS and COMMUNICATION TECHNOLOGIES	PowerPoint and video presentations. Communication with students via e-mail. Teaching support through access to the e-class platform, to on-line databases etc.
TEACHING ORGANISATION	

Activities	***Work load per semester***
Lectures	26
Laboratory practice	26
Individual study of students	73
Total work load (25 h work load per ECTS)	***125 hours***

STUDENTS EVALUATION

The evaluation on the course's theory consists of:

1. final written examination on the course's theory (100%), consisting of:
   I. Evaluation of elements of the course's theory
   II. Short-answer questions
   III. Multiple choice questions
2. Personal written essay and its presentation

The evaluation on the course's laboratory practice is determined by the final written examination (100%) consists of:

I. Evaluation of elements of the course's laboratory practice
II. Short-answer questions
III. Multiple choice questions

5. BIBLIOGRAPHY

Proposed Literature:

1. Hafez, 1962, Reproduction in farm animals.

2. Víctor H., Parraguez et al, Reproductive Physiology-Endocrinology, Animal Reproduction in Livestock, Encyclopedia of Life Support Systems (EOLSS,2013).

3. Schmidt, G. H. , 1971, Cornell University, Biology of lactation.

4. Akers, R. M. 1990, Lactation Physiology: a ruminant animal perspective, Protoplasma 159, 96-111.

5. Reece W.O., 2009. Λειτουργική Ανατομική και Φυσιολογία Ζώων (Μεταφρ. Θεοδωρόπουλος Γ., Χαδιώ-Μάντζαρη Σ., Μπαλάσκας Χ., Οικονομόπουλος Ι.). Αθήνα, Utopia.

6. Ρογδάκης Εμμ., 2004. Αναπαραγωγή του προβάτου. Εκδ. Σταμούλη.