LOGO DELLA STRUTTURA PRIMARIA

COURSE: Physiology and Pathology of Reproduction			
ACADEMIC YEAR:2019/2020			
TYPE OF EDUCATIONAL ACTIVITY: **Affine**			
TEACHER: Prof. Raffaele Boni			
e-mail: raffaele.boni@unibas.it		website: https://scholar.google.it/citations?user=HZ8ahRoAAAAJ&hl=it&oi=ao	
phone: +30 0971 205017		mobile (optional):	
Language: Italian			
ECTS: 6 (lessons e tutorials/practice)	n. of hours: 56 (40+16) (lessons e tutorials/practice)	Campus: Potenza Dept./School: School of agriculture, forestry, food and environmental sciences Specialization Course in Agricultural Science and Technology	Semester: II Year: I

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The course will enable the student to acquire the basic knowledge of animal reproduction, to understand its functioning mechanisms, to learn technologies that can affect its efficiency and to identify physiological and pathological conditions that can negatively affect its course. An analysis of the major infectious and parasitic diseases affecting the genital system will also be carried out; in some cases, these pathological conditions can be important in human health.

O Knowledge and understanding skills

The student must demonstrate that he/she is able to frame the problems related to the breeding management of a livestock company and to intervene with appropriate strategies in order to solve any reproductive inefficiencies and optimize the company's income. Involvement of students during the theoretical lessons and exercises will be to keep high attention and highlight and solve any difficulty of comprehension.

O Ability to apply knowledge and understanding:

During the theoretical learning (frontal and practical) lessons and during the final exam the student will have to demonstrate that he/she is able to analyse the effects of the various variables that can affect animal reproductive efficiency by identifying the best strategies able to solve any problems that have arisen. Achieving a diagnostic goal becomes the ultimate result of a discriminatory analysis that necessarily involves information gathered in the course of the student's learning path, creating transverse links with courses previously performed. To support this logical path, the student will need to identify any analytical evidence that can confirm their hypotheses.

O Autonomy of judgment:

The student must be able to evaluate and choose the most suitable tools for setting up proper reproductive strategies that can meet business goals. Such choices must be made in the respect of animal welfare and the economy of the holding, avoiding that the latter aspect prevails over the former.

O Communicative Skills:

The student should be able to explain in a simple way, even to non-sectoral, the effects of proper animal breeding management on corporate income. In detail of this narrative, biology, technology and reproductive pathology of bred animals must be addressed using an appropriate scientific language.

O Learning Skills:

At the end of the course, the student must be able to use bibliographic and informatics tools to implement the basic acquired knowledge, and to update and enrich his/her knowledge through participation in specialized sector courses and seminars.

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PRE-REQUIREMENTS

Bachelor degree in agricultural sciences

Knowledge of anatomy and physiology of domestic animals

Knowledge of livestock sciences

SYLLABUS

Anatomy of the genital tract (4 front + 4 hours lab hours). Folliculogenesis and Oogenesis (4 hours). Spermatogenesis, collection, evaluation and conservation of semen (4 front hours +2 lab hours). sexual cycle (4 hours). Puberty (1 hour). Causes of infertility. Anoestrus (physiological and pathological causes) (5 hours). Major infectious-parasitic diseases of the genital tract (4 hours). Pregnancy and delivery (2 hours). Pregnancy diagnosis (2 hours). Reproductive programming (2 hours). Synchronization and induction of estrus (2 hours). Use instrumental insemination (2 hours). fertility indexes (2 hours). Overview of new technologies in animal breeding (4 hours). Field and laboratory testing the acquired knowledge (10 hours).

Educational objective: 1 credit

To acquire a detailed understanding of the anatomy of the genital tract, the basal folliculogenesis and cyclic mechanisms of development and maturation of the female gamete.

Educational objective: 2nd Credit

To acquire knowledge on the mechanisms of spermatogenesis, learn how to perform the collection, evaluation and conservation of semen in the different livestock species.

Educational objective: 3rd credit

To acquire knowledge on the dynamics of the sexual cycle, the attainment of puberty, the embryonic and fetal development, pregnancy and delivery as well as the diagnosis of pregnancy.

Educational objective: 4th credit

To acquire knowledge on reproductive programming. Estrus synchronization and induction. Use of instrumental insemination. Fertility indexes.

Educational objective: 5th credit

To acquire knowledge on the causes of infertility. Anestrus (physiological and pathological causes). Major infectious-parasitic diseases of the genital tract. Overview of new technologies applied to animal reproduction.

Educational objective: 6th credit

Application and assessment of the knowledge acquired through exercises that will concentrate on:

Post-mortem examination of the genital tract and egg collection.

Evaluation in the laboratory of semen quality.

TEACHING METHODS

Theoretical classes, Classroom tutorials, Laboratory tutorials, Technical visits.

The course consists of 40 hours of lectures and 16 hours of laboratory exercises and field-testing. During the exercises, students will be asked to analyze the considered case studies.

EVALUATION METHODS

Oral examination. General questions will be chosen randomly among the topics covered in the course. In-depth questions and connections with other topics will help to check the level of knowledge acquired.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Seren E. Riproduzione negli animali d'allevamento (di Hafez & Hafez). Libreria Universitaria (ed) Bologna
- Notes and course handouts will be released by the teacher
- Sali G. Manuale di teriogenologia bovina. Essegi-Edagricole, Bologna.
- Elli M: Manuale fatro di riproduzione bovina. Giraldi Editore

INTERACTION WITH STUDENTS

reception in study days / scheduled times, as follows:

	from	*to*	*@*
Tuesday	*16:30*	*18:30*	*Teacher's room*
Wednesday	*16:30*	*18:30*	*Teacher's room*
Thursday	*9:30*	*11:30*	*Teacher's room*

- Skype and email contacts (at any time).

EXAMINATION SESSIONS (FORECAST)[1]

29/01/2020, 26/02/2020, 25/03/2020, 27/05/2020, 24/06/2020, 22/07/2020, 23/09/2020, 28/10/2020, 16/12/2020.

The calendar is available online

SEMINARS BY EXTERNAL EXPERTS YES □ NO X

FURTHER INFORMATION

Course Examination Board

Prof. Raffaele Boni (President)
Dr. Stefano Cecchini (Member)
Prof. Adriana Di Trana (Member)
Prof. Maria Brigida Lioi (Member)
Dr. Emilia Langella (Member)

[1] Subject to possible changes: check the web site of the Teacher or the Department/School for updates.