

Academic subject: Principles of reproduction of domestic animals			
Degree Class L-38		Degree Course: Animal Science	Academic Year: 2020/2021
		Kind of class: Mandatory	Year: III Period: I Semester
			ECTS: 6 divided into ECTS lessons: 5 ECTS exe/lab/tutor: 1
Time management, hours, in-class study hours, out-of-class study hours Lesson: 50 exe/lab/tutor: 25 in-class study: 0 out-of-class study: 75			
Language: Italian		Compulsory Attendance: No	
Subject Teacher: Giovanni M Lacalandra Luisa Valentini (co-teacher)		Tel: 0804679879 e-mail: giovannimichele.lacalandra@uniba.it Tel.: 0804679873 e-mail: luisa.valentini@uniba.it	Office: Department of Veterinary Medicine (DiMeV) Department of Emergency and Organ Transplantation (DETO) Office days and hours: Tuesday: 12:30am- 1:30pm; Thursday: 12:30am-1:30pm
Prerequisites: The student must have passed the exam: 'Principles of physiology and endocrinology of domestic animals'. The student must know the basic physiological concepts of animal reproduction by demonstrating synthesis and autonomous judgment skills.			
Educational objectives: Basic knowledge of reproductive physiology and action of hormones and drugs used in the reproductive field; knowledge of reproductive biotechnologies currently applied in domestic animals with advantages and limits.			
Expected learning outcomes (according to Dublin Descriptors)		<p>Knowledge and understanding: Demonstrate that they have acquired basic knowledge of the reproductive physiology and related regulatory factors in both farm and companion animals. Knowledge on reproductive conditioning methods, semen manipulation and reproductive biotechnologies. Knowledge on the activity of hormones and drugs used for reproductive purposes and on environmental factors interfering with reproductive activity.</p> <p>Applying knowledge and understanding: Demonstrate knowing how to apply theoretical knowledge, to the understanding of some practical procedures in animal reproduction field and the study and solve of individual situations.</p> <p>Making judgements: Demonstrate developing good critical skills and take positions argued from a reproductive and operative point of view.</p> <p>Communication: Emphasis will be placed on the use of technical terms but clear in their meanings and the students must demonstrate that they have acquired the ability to argue the knowledge acquired with properties of language.</p> <p>Lifelong learning skills: The ability to present and communicate effectively will encouraged in the classroom or during the internship period in different forms of oral exposure. At the end they can will have developed the learning skills necessary for autonomously continue the studies foreseen by the degree course and those subsequent.</p>	
Course program. Notes of gametogenesis and gonadal activity: folliculogenesis, oogenesis, spermatogenesis. Secondary sexual characteristics. Reproductive behavior. Ovarian cycle, pregnancy and parturition both in farm and companion animals. Ormonal and environmental conditioning of reproduction; hormones and drugs used for reproductive conditioning. Oestrus synchronization protocols. Macroscopic, microscopic and computerized analysis of semen quality. Technique of semen storage. Artificial fertilization in the different species. Recovery, selection and in vitro maturation of the oocyte; ovum pick-up; in vitro fertilization. Embryo transfer: superovulation protocols; embryo recovery techniques; in vitro embryo culture in the pre-implantation stages; embryo transfer. Cryopreservation of oocytes and embryos. Current efficiency and results of in vitro embryo production procedures in livestock. Endocrine disruptors and their impact on reproduction.			
Teaching methods: Frontal lessons and practical training or internship			
Auxiliary teaching: Medical white coat, gloves and disposable plastic shoes/boots; protective medical mask.			
Assessment methods: Oral exam			
Bibliography: 1) Hafez B, Hafez ESE (2011), 'Riproduzione negli Animali d'Allevamento'. Ed. Libreriauniversitaria.it. 2) Pinkert C.A. (2002) Assisted Reproductive Technologies and Embryo Culture Methods for Farm Animals. In			

Transgenic Animal technology. A laboratory handbook. Academic Press, London UK. 513-568.

3) Notes from the lessons.

4) Pwp presentations. Articles from texts and scientific journals recommended or provided by the teachers.