

General information	
Academic subject	Pathology of animal reproduction
Degree course	Veterinary Medicine
Academic Year	2021/2022
European Credit Transfer and Accumulation System (ECTS)	3
Language	Italian
Academic calendar (starting and ending date)	III Bimester
Attendance	Mandatory

Professor/ Lecturer	
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Department and address	Veterinary Medicine Campus – Valenzano (BA)
Virtual headquarters	Tutorial activity on Microsoft Teams platform: Code to be requested from the teacher
Tutoring (time and day)	From September to July from Monday to Friday from 12.00 to 14.00 (excluding Tuesdays of the III Bimester), by prior appointment / telephone contact / e-mail.

Syllabus	
Learning Objectives	The course provides the essential and fundamental elements of knowledge in the field of clinical-applicative physiology of animal reproduction, artificial Insemination techniques and utero-ovarian pathologies.
Course prerequisites	The student must have acquired knowledge and skills relating to anatomical areas of interest to the discipline; endocrinological and physiological mechanisms that regulate reproductive functions; basics of general pathology. Prerequisites: Passing the 'General Pathology' exam.
Contents	<p>The teaching contents are attributable to both of the following areas:</p> <ul style="list-style-type: none"> • Clinical Sciences of Companion Animals (including horses and exotics) • Clinical sciences in food-producing animals (including animal husbandry and herd medicine) <p>Oestral cycles and hormonal balances of mare, bovine, buffalo, sheep, goat, sow, bitch, cat. Reproductive activity in the male. Fundamental characteristics of sperm in various animal species. Semen collection techniques. Macroscopic and microscopic evaluation of the semen. Extender solution and semen dilution techniques. Semen refrigeration and freezing. Artificial insemination in all domestic animal species. Pharmacological control of reproduction. Embryo-Transfer. Pregnancy Diagnosis. Diseases of the female reproductive system (ovaries, salpinx, uterus, cervix, vagina). Outline of the pathology of the male reproductive system (testicles, accessory sex glands, penis). Embryonic mortality and abortions. General information on infectious (bacterial, viral) and parasitic diseases relating to animal reproduction.</p>
Books and bibliography	Text adopted G.H. ARTHUR, D.E. NOAKES, H. PEARSON, Veterinary Reproduction and Obstetrics (Theriogenology), 6. Ed., BailliereTindall.

	<p>Integration and special in-depth texts: G. SALI. Manuale di teriogenologia bovina, Ed. Agricole Bologna, 1996. A.O. MCKINNON, J.L. VOSS. Equine reproduction, Lea &Febiger, Philadelphia, 1993. McENTEEK., "Reproductive Pathology of Domestic Mammals", Academic Press, 1990. S.D. JOHNSTON, M.V. ROOT KUSTRITZ, P.N.S. OLSON, Canine and feline theriogenology, W.B. Saunders Company, 2001. FELDMAN E.C., NELSON R.W., Canine and Feline Endocrinology and Reproduction, Saunders Comp, Philadelphia, 1999.</p>
Additional materials	<p>The power-point files used during teaching are available to students as well as monographs on specific topics, drivers containing Power-point and Video files; Explanatory models.</p>

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
75	26	25	24
ECTS			
3	2	1	
Teaching strategy		The course is not delivered in e-learning mode.	
- Frontal lessons		The module takes place in classrooms equipped with multimedia tools such as PC, projector, internet connection, using power-point presentations. For a better understanding, microscopic and macroscopic images of pathological organs will be presented where possible. In detail, the pathologies will be treated according to the following scheme: 1) cause of the pathology: etiological agent, 2) pathogenetic mechanisms, 3) micro-macroscopic pathological aspects; 4) clinical aspects.	
- Practical lessons		They take place in appropriately equipped laboratories and in the clinical structures of Obstetrics, Gynecology and Veterinary Andrology, at the Veterinary Hospital, by the teacher of the discipline and collaborators, with students divided into small groups, using anatomical and cytological preparations related to clinical cases. This activity can also be carried out with the aid of videos and photographs projected at the same time in special didactic laboratories. In both cases, group work will be stimulated to improve the communicative qualities of the students. The use of anatomical preparations and models will also allow the learning of the most common clinical manual skills.	
- lessons in the field		Two to 3 field trips to livestock farms are scheduled. Each student is stimulated, particularly during practical teaching, to have an interactive approach with the teacher or with the assistants and with the staff of the farms.	
Expected learning outcomes			
Knowledge and understanding on:		<p>At the end of the learning process the student must have achieved the following results in terms of overall knowledge of the topics covered o</p> <ul style="list-style-type: none"> ○ Oestral cycles related to the application of artificial insemination; ○ Hormonal/non-hormonal conditioning techniques of reproduction; ○ Techniques of sampling and evaluation, dilution and conservation of the semen in the different species; ○ Aetiopathogenesis of the most common pathologies of the female genital sphere and framed in the reproductive phases including the pathologies of pregnancy indicating their causes, etiology, symptoms, consequences and hints 	

	of therapy.
Applying knowledge and understanding on:	<p>The student must</p> <ul style="list-style-type: none"> ○ be able to express appropriate interrelation skills regarding the hormonal regulation of reproduction in its various forms and at different reproductive moments, in the male and female. ○ being able to perform some of the most common diagnostic tests on animals in vivo: evaluations of the reproductive system; pregnancy diagnosis, semen sampling, semen evaluation, vaginal cytology, laboratory tests, etc. ○ having also achieved the ability to recognize the pathologies of the female genital sphere and the causes of infertility, acquiring a correct terminology. <p>The skills acquired are preparatory to the obstetric-gynecological and andrological clinic courses.</p> <p>In accordance with the Day One Competences adopted by the ECCVT, the student must be able to:</p> <ul style="list-style-type: none"> ○ Communicate effectively with clients, the public, professional colleagues and responsible authorities, using language appropriate to the audience concerned (1.4); ○ Prepare accurate clinical and client records, and case reports when necessary, in a form satisfactory to colleagues and understandable by the public (1.5); ○ Work effectively as a member of a multi-disciplinary team in the delivery of services (1.6); ○ Understand and apply principles of clinical governance, and practise evidence-based veterinary medicine (1.9); ○ Obtain an accurate and relevant history of the individual animal or animal group, and its/their environment (1.15); ○ Perform a complete clinical examination and demonstrate ability in clinical decision-making (1.17).
Soft skills	<ul style="list-style-type: none"> • <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ Framework of a clinical case and symptoms ○ Diagnostic suspicion ○ Clinical instrumental and laboratory test ○ Diagnosis • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Ability to adequately describe and discuss what has been learned; ○ Ability to adequately convey what has been learned. • <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ Awareness of having to project and integrate what has been learned in future study and professional activities. <p>In accordance with the Day One Competences adopted by the ECCVT, the student must be able to:</p> <ul style="list-style-type: none"> ○ Understanding of, and competence in, the logical approaches to both scientific and clinical reasoning, the distinction between the two, and the strengths and limitations of each (2.1); ○ The aetiology, pathogenesis, clinical signs, diagnosis and treatment of the common diseases and disorders that occur in the common domestic species

	<p>(2.5);</p> <ul style="list-style-type: none"> ○ The ethical framework within which veterinary surgeons should work, including important ethical theories that inform decision-making in professional and animal welfare-related ethics (2.12).
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Assessment and feedback	
Methods of assessment	<p>Oral exam on topics of the program. The student must demonstrate the skills acquired during the lectures and practical exercises, the specific scientific terminology; knowledge of the principles of neuroendocrine regulation of reproduction; artificial insemination techniques in different animal species, reproductive pathologies of the female genital sphere of animals. Overall, the judgment will make use of the degree of knowledge achieved, possession of logical skills, communication skills, as specified in detail in the section below.</p>
Evaluation criteria	<ul style="list-style-type: none"> • <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ Identify the level of knowledge reached of the theoretical topics • <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> ○ Identify the level of knowledge reached of the practical-applicative topics • <i>Autonomy of judgment</i> <ul style="list-style-type: none"> ○ Demonstrate the ability to synthesize and interrelate the arguments • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Knowing how to express concepts correctly and fully • <i>Communication skills</i> <ul style="list-style-type: none"> ○ Knowing how to express concepts correctly and fully • <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ Demonstrate that you have a critical approach to studying
Criteria for assessment and attribution of the final mark	<p>The assessment of the learning achieved takes place through an oral interview aimed at ascertaining the degree of knowledge of the proposed topics. The final grade is awarded out of thirty. The exam is passed when the grade is greater than or equal to 18. The verification is contextual with that of "Obstetrics". The evaluation acquired in the Animal Reproduction Pathology module, together with that acquired in the "Obstetrics" module, will contribute to the determination of the final evaluation of the integrated examination of "Obstetrics and reproductive pathology", according to an arithmetic mean. In any case, the student must acquire a mark greater than or equal to 18/30 for each part of the exam relating to the two courses.</p>
Additional information	