INSTITUTO POLITÉCNICO DE BRAGANÇA

Course Unit	Reproduction and Obstetrics					Field of study	Veterinary Science		
Bachelor in	Veterinary Nursing					School	School of Agriculture		
Academic Year	2022/2023	Year of study	2			Level	1-2	ECTS credits	6.0
Type	Semestral	Semester	1			Code	9085-671-2104-00-22		

Workload (hours)	162	Contact hours	T	30	TP	-	PL	13	TC	13	S	-	E	-	OT	20	O	-

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s)	Paulo Jorge Pereira Afonso, Ramiro Corujeira Valentim

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Animal Reproduction: know the physiology of reproduction, the endogenous and exogenous factors limiting reproduction activity and the main reproduction management techniques.
2. Obstetrics: know the major pathologies of the male and female genitalia, pregnancy and parturition. Discern normal labor from dystocia and know how to prepare to caesarian section. Neonatology.

Prerequisites

Before the course unit the learner is expected to be able to:
Anatomy, animal behavior, biochemistry, physiology and animal husbandry.

Course contents

Neuroendocrine of reproduction. Male and female genitalia. Puberty. Oestrus Cycle. Reproductive cyclicity and anoestrus. Breeding control techniques. Contraception in small animals. Mating and artificial insemination techniques. Fertilization, implantation and placentation. Pregnancy and pregnancy diagnosis techniques. Parturition. Tocolysis or ultrasonography foetal examination. Preparation to caesarean section. Puerperium and neonatology. Professional risk prevention and waste management.

Course contents (extended version)

1. Reproduction Regulation Systems
   - Nervous System
   - Endocrine System
2. Male Genital Tract
   - Testicles
   - Epididymis
   - Sexual Glands
   - Penis and Foreskin
   - Semen
3. Female Genital Tract
   - Ovaries, Oviducts, Uterus, Vagina
   - External Genital Organs
   - Spermatozoa in the Female Genital Tract
4. Breeding Activity
   - Puberty
   - Oestrus Cycle
   - Reproductive Cyclicity and Anoestrus
   - Heat Detection Techniques
   - Control of Ovarian Activity
   - Contraception in Small Animal
   - Breeding Management
   - Mating and Artificial Insemination
5. Fertilization, Implantation and Placentation
   - Fertilization Mechanism
   - Maternal Recognition of Pregnancy
   - Implantation
   - Early Embryogenesis
   - Placentation
6. Pregnancy and Parturition
   - Pregnancy Signals
   - Pregnancy Length
   - Foetal Nutrition and Metabolism
   - Amnion and Allantois Fluids
   - Pregnancy Diagnosis Techniques
   - Onset of Parturition
   - Stages of Labour
   - Natural and Induced Parturition
7. Tocolysis
   - Foetal Examination
   - Normal Parturition
   - Dystocia Parturition
   - Foetal Abnormal Positions
   - Treatment of Dystocia
   - Maternal Assistance
8. Ultrasonography
   - Foetal Examination
   - Foetal Abnormal Positions
9. Preparation to Caesarean Section
   - Small Animal
   - Large Animal
   - Post-Surgery Care
10. Neonatology
    - Newborn Care
    - Newborn Management
11. Etiology of Infertility
    - Small Animal
    - Livestock Animals and Horses

Course contents (extended version)

12. Reproductive Disorders
    - Small Animal
    - Livestock Animals and Horses

Recommended reading

1. ENGLAND, G. , 2013. Dog Breeding, Whelping and Puppy Care. Wiley-Blackwell, NJ, EUA, 344 pp.
2. GREER, M. L. , 2014. Canine Reproduction and Neonatology. Teton NewMedia, WY, EUA, 476 pp.
3. JOHNSTON, S. D. , KUSTITZ, M. V. R. , OLSON, P. N. , 2008. Canine and Feline Theriogenology. W. B. Saunders Company, Filadélfia, EUA, 592 pp.
4. NOAKES, D. E. , PARKINSON, T. , ENGLAND, G. , 2009. Veterinary Reproduction and Obstetrics. 9ª edição, W. B. Saunders Company, Filadélfia, EUA, 960 pp.
5. YOUNGQUIST, R. S. , THRELFALL, W. , 2006. Current Therapy in Large Animal Theriogenology. 2ª Edição, W. B. Saunders Company, Filadélfia, EUA, 976 pp.

Teaching and learning methods

Lectures will be support by media and multimedia resources. Practical classes will engage direct working with animals. Seminars will allow teacher and students to explore a particular topic related to Animal Obstetrics. Non present hours will involve training in a working environment. Students are expected to work largely on their own initiative although with the close support of a tutor.

Assessment methods

1. 1 Test (50%) and 1 Restrict Examination (50%) - (Regular, Student Worker) (Final)
2. General Examination (100%) - (Student Worker) (Final)
3. General Examination (100%) - (Regular, Student Worker) (Supplementary, Special)

Language of instruction

Portuguese

Electronic validation

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07-12-2022	07-12-2022	16-12-2022	19-12-2022