

28428 - Reproduction and Obstetrics

Syllabus Information

Academic year: 2023/24

Subject: 28428 - Reproduction and Obstetrics

Faculty / School: 105 - Facultad de Veterinaria

Degree: 451 - Degree in Veterinary Science

ECTS: 6.0

Year: 3

Semester: Second semester

Subject type: Compulsory

Module:

1. General information

This subject aims to provide students with an in-depth knowledge of the physiological, pathological and technological aspects that affect the organic reproductive function of domestic animals in order to be able to apply them in their control, management and problem solving.

"These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda (<https://www.un.org/sustainabledevelopment/es/>) and certain specific targets, so that the acquisition of the learning outcomes of the subject will contribute to some extent to the achievement of objectives 2.4, 2.5 of Goal 2, 3.3, 3.9 of Goal 3, 4.7 of Goal 4, 5.5 of Goal 5, 9.5 of Goal 9, 12.5 of Goal 12, 15.5, 15.6 of Goal 15 and 16.10 of Goal 16.

2. Learning results

Upon completion of this subject, the student will be able to:

- Know, understand and explain the fundamentals of each of the stages involved in the process of reproduction, as well as reproductive biotechnologies and obstetric techniques.
- Interrelate different concepts and knowledge in order to apply them to treatments for the control of reproduction in order to plan, optimise and solve pathologies, using the most advanced techniques and technologies, as well as the most appropriate treatments.
- Adequately use the scientific terminology of this subject.
- Handling basic scientific instrumentation and of obtaining data by performing different laboratory tests, as well as to analyse such data to arrive at results and interpret and use them.
- Acquire the necessary skills to perform certain laboratory and animal tests and interpret them.

3. Syllabus

THEORY

- BLOCK I: BASIS OF ANIMAL REPRODUCTION

Topic 1. Introduction: Concept of the subject. Application of the anatomical and physio-endocrinological fundamentals of reproduction in the female.

Topic 2. Puberty and sexual cycle in the female. External factors.

Topic 3. Application of the anatomical and physio-endocrinological fundamentals of reproduction in the male.

Topic 4. Puberty in the male and male hormonal cycle. External factors.

Topic 5. Semen formation.

BLOCK II: REPRODUCTIVE BIOTECHNOLOGIES

Topic 6. Introduction to reproductive biotechnology. Semen collection.

Topic 7. Seminal contrast. Spermogram: meaning and evaluation

Topic 8. Dilution of semen. Types of diluents.

Topic 9. Seminal preservation: refrigeration, freezing. Thawing.

Topic 10. Types of artificial insemination. Factors regulating the success of artificial insemination.

Topic 11. Control of the sexual cycle. Main products used. Handling techniques.

Topic 12. In vitro fertilization. Applications.

Topic 13. Embryo transfer. Methodology of transfer in different species.

Topic 14. Micromanipulation of embryos.

BLOCK III: OBSTETRICS

Topic 15. Concept of obstetrics. Migration of gametes. Gamete survival.

Topic 16. Fertilization: phases and stages of fertilization. Fertilization abnormalities.

Topic 17. Segmentation and migration of the embryo. Maternal recognition of gestation.

Topic 18. Implantation: Morphological and endocrinological aspects. Types of implantation.
Topic 19. Placentation. Types of placenta. Physio-endocrinology of the placenta. Umbilical cord.
Topic 20. Gestation. Care of the pregnant female. Fetal development and growth.
Topic 21. Gestation: Gestation diagnostics.
Item 22. Pelvimetry and fetal statics. Valuation methods.
Topic 23. Labour: Concept. Stages of labour. Handling and hygiene. Control of labour.
Topic 24. Puerperium.
Topic 25. Lactation: Mammary gland. Colostrum. Milk. Artificial lactation.

BLOCK IV: REPRODUCTIVE PATHOLOGY

Item 26. Sterility and infertility in males due to anatomical, functional and congenital causes.
Topic 27. Reproductive interventions in the male
Item 28. Female sterility and infertility due to anatomical, functional and congenital causes.
Topic 29. Embryonic mortality. Abortion. Abortion induction.
Topic 30. Gestation: Maternal diseases
Topic 31. Gestation: Fetal adnexal and fetal diseases. Fetal distress.
Topic 32. Dystocic labor. Classification of dystocias. Obstetric maneuvers. Obstetrical material.
Topic 33. Dystocia of maternal origin. Resolution.

Topic 34. Dystocia of fetal origin, non-crucial obstetric maneuvers.
Topic 35. Cruel obstetric interventions on the mother and fetus
Topic 36. Accidents consecutive to labour. Pathology of the puerperium
Topic 37. Mammary gland pathology in males and females
Item 38. Pathology of the newborn

PRACTICES

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1. Artificial insemination techniques: 3 h
2. Seminal technology: 2.5 h
3. Assisted Reproduction: 2.5 h
4. Fetal statics and obstetric maneuvers: 1.5 h
5. Obstetric blocks and interventions: 2.5h
6. Diagnostic techniques in reproduction: 3 h
7. Labour care: 2 h

4. Academic activities

They will be developed based on:

- Theoretical classes: Face-to-face hours: 39 h.

Participative master classes, supported by ICT. The graphic material is previously available to the students on the Moodle platform.

- Practical Classes: Face-to-face hours: 18 h.

In laboratories, teaching facilities and livestock farms. Explanatory scripts or videos are available in advance.

- Sessions for presentation and discussion of papers Face-to-face hours 3 h.

Complementary activity to reinforce concepts related to different topics of the subject through the presentation of work prepared in advance by each participating group.

5. Assessment system

The subject will be assessed through the following activities in the global evaluation modality:

1- Written exam on the theoretical teaching: It will account for 70% of the final grade. It will consist of forty multiple-choice questions and short questions. Errors on the test will not be graded with negative points. To pass this part, at least 24 of the 40 questions must be answered correctly. If this part is passed but the rest is not, the grade will be kept for this academic year.

2- Theoretical-practical exam of practical teaching: It will represent 25% of the final grade. In order to pass this part, it is necessary to attend all the practical sessions. Participation and interest will be valued with 5%. It is also necessary to obtain one of the two possible points in the objective theoretical-practical test.

3- Presentation of group work (seminar sessions). The presentation (clarity, communication and discussion skills, etc.) will be assessed. It will account for 5% of the final grade.

The grade obtained in sections 2 and 3 will be kept for successive years.

In the case of non-attendance to practices or assignments, these parts may be passed by means of individual evaluation tests.