

## COURSE DESCRIPTION

### COURSE DETAILS

Title (of the course): **REPRODUCCIÓN Y OBSTETRICIA**

Code: 101480

Degree/Master: **GRADO DE VETERINARIA**

Year: 4

Name of the module to which it belongs: CIENCIAS CLÍNICAS Y SANIDAD ANIMAL

Field: REPRODUCCIÓN Y OBSTETRICIA

Character: OBLIGATORIA

Duration: ANUAL

ECTS Credits: 10.5

Classroom hours: 105

Face-to-face classroom percentage: 40.0%

Study hours: 158

Online platform: <http://moodle.uco.es/moodlemap/>

### LECTURER INFORMATION

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### PREREQUISITES AND RECOMMENDATIONS

#### Prerequisites established in the study plan

It is mandatory that students should have at least a B-1 level in English language to participate in the English course of Obstetrics.

#### Recommendations

This subject is partially given in English language for a small group of students according to the guidelines of the Plan to Promote Plurilingualism of the University of Cordoba 2023-2026 ([https://www.uco.es/poling/wp-content/uploads/2023/03/PlanPlurilinguismo\\_2023-2026.pdf](https://www.uco.es/poling/wp-content/uploads/2023/03/PlanPlurilinguismo_2023-2026.pdf)).

Theoretical and practical lessons of Pathology of Reproduction (see contents section, lessons 22 to 31) and Obstetrics (see contents section, lessons 32 to 42) will be fully given in Spanish and English languages. Theoretical and practical lessons of Reproduction (lessons 1 to 21) will be given in Spanish language. It is advisable that students should have at least a B-1 level in English language to participate in the English course of Pathology of Reproduction and Obstetrics. Methodology and evaluation of Pathology of Reproduction and Obstetrics corresponds to the description included in this guide. However, the students will have an annex to this guide explaining the specific details of Obstetrics.

In general, it is recommended a good level of knowledge in the following subject: Systematic Anatomy, Embryology, Neuroanatomy Topographical Anatomy, Animal Physiology, General Pathology, Physiopathology, Microbiology and Immunology, Clinical Propedeutics, Imaging Diagnose, Systematic Pathology.



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INFORMATION REGARDING  
UNIVERSITY OF CORDOBA DEGREES

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### INTENDED LEARNING OUTCOMES

CU1	Acredit the use and dominance of a foreign language
CU2	Understand and improve IT skills
CU3	Improve job searching habits, and entrepreneurial skills.
CT1	Problem solving
CT2	Team work
CT3	Ability to put theory into practice.
CT4	Decision making
CT5	Ethical compromise
CT6	The skills to analyse and summarise
CT7	Investigation skills
CT8	professional skills
CE37	Birthing, birth and postnatal: care and sicknesses.
CE38	Assisted birth.

### OBJECTIVES

- 1.- To know the concepts, principles and terminology of the subject Reproduction and Obstetrics and its roll into veterinary practice.
- 2.- To know and understand the reproductive technologies applied to improve production and economy of domestic animal farms and industry.
- 3.- To know the abnormalities, clinical signs diagnosis and medical or surgical treatment of the main diseases which affects the male and female genital tract of different domestic animal species.
- 4.- To stimulate the student in self-study and management of searching engines for bibliographic databases.

### CONTENT

#### 1. Theory contents

##### I. INTRODUCTION

Lesson 1: Presentation of the main aspects of the subject

##### II. BREEDING SOUNDNESS EXAMINATION.

Lesson 2: Breeding soundness examination of the female reproductive tract.

Lesson 3: Breeding soundness examination of the male reproductive tract.

##### III. CONTROL OF REPRODUCTION.

Lesson 4: Normal cyclical ovarian activity and its control.

Lesson 5: Endogenous and exogenous control of ovarian cyclicity in the cow.

Lesson 6: Endogenous and exogenous control of ovarian cyclicity in small ruminants.

Lesson 7: Endogenous and exogenous control of ovarian cyclicity in the mare.

Lesson 8: Endogenous and exogenous control of ovarian cyclicity in the bitch and queen.

Lesson 9: Endogenous and exogenous control of ovarian cyclicity in the sow.

Lesson 10: Endogenous and exogenous control of male sexual activity.

Lesson 11: Current methods for semen collection.

Lesson 12: Current methods for semen evaluation

Lesson 13: Routine evaluation of semen.

Lesson 14: Advanced evaluation of semen.



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### IV. ASSISTED REPRODUCTIVE TECHNOLOGIES

Lesson 15: Current methods for semen preservation.

Lesson 16: Artificial insemination in domestic animals.

Lesson 17: Embryo transfer

Lesson 18: In vitro production of embryos.

### V. PREGNANCY DIAGNOSIS.

Lesson 19: Introduction. Pregnancy diagnosis in the mare.

Lesson 20: Pregnancy diagnosis in ruminants.

Lesson 21: Pregnancy diagnosis in the bitch and in the sow.

### VI. FERTILITY, SUBFERTILITY AND INFERTILITY.

Lesson 22: Fertility and sterility caused by genetic factors. Influence of nutrition.

Lesson 23: Infertility classified by anatomical location: vagina and vulva.

Lesson 24: Infertility classified by anatomical location: cervix and uterus.

Lesson 25: Uterine infection.

Lesson 26: Neuroendocrine and ovarian abnormalities. Genital surgery.

Lesson 27: Abnormalities of coitus, ejaculation and sperm quality in the male.

Lesson 28: Abnormalities of the penis and prepuce.

Lesson 29: Abnormalities of the scrotum, spermatic cord and epididymis.

Lesson 30: Abnormalities of the accessory glands.

Lesson 31: Neuroendocrine and testis abnormalities. Genital surgery.

### VII. ABNORMALITIES DURING PREGNANCY.

Lesson 32: Gestational abnormalities.

Lesson 33: Ectopic and prolonged pregnancy, management of twins and pseudopregnancy.

Lesson 34: Pregnancy loss during embryonic and fetal periods.

### VIII. ABNORMALITIES DURING PARTURITION. DYSTOCIA AND OBSTETRIC INTERVENTIONS

Lesson 35: Injuries and diseases incidental to parturition.

Lesson 36: Induction and management of normal parturition. Management of dystocia: general considerations.

Lesson 37: Maternal dystocia in the cow and mare: causes and treatments.

Lesson 38: Fetal Dystocia in the cow and mare: causes and treatments

Lesson 39: Dystocia in small animals, sow and small ruminants

### IX. PUERPERIUM AND THE NEWBORN.

Lesson 40: Abnormalities during puerperium.

Lesson 41: Abnormalities of the mammary gland.

Lesson 42: Abnormalities of the newborn.

## 2. Practical contents

PRACTICAL SESSIONS IN: CLASSROOM, LABORATORY, VETERINARY TEACHING HOSPITAL AND EXPERIMENTAL FARM

Session 1: Vaginal cytology in the bitch.

Session 2: Clinical assessment of the sexual activity of the cyclic mare.

Session 3: Farm I: Ultrasound examination in small ruminants.

Session 4: Breeding soundness examination of the mare.

Session 5: Breeding soundness examination of the bitch.

Session 6: Aspects related to synchronization, conception methods and sexual activity in the male

Session 7: Farm II: Hormonal estrus synchronization in small ruminants.

Session 8: Materials and procedures to perform Artificial Insemination in the mare.

Session 9: Materials and procedures to perform Artificial Insemination in the bitch.

Session 10: Materials and procedures to perform Artificial Insemination in the cow (genital tracts from the slaughterhouse).

Session 11: Embryo transfer in the cow (genital tracts from the slaughterhouse).

Session 12: In vitro fertilization techniques.



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Session 13: Pregnancy diagnosis.

Session 14: Reproductive management of the bitch: fertility problems.

Session 15: Reproductive management of the mare: fertility problems.

Session 16: Clinical cases (male & female).

Session 17: Obstetrics.

CLINICAL CASES AT THE VETERINARY TEACHING HOSPITAL

SEMINARS

Breeding soundness examination.

Control of reproduction.

Assisted reproductive technologies

Pregnancy diagnosis.

Fertility, subfertility and infertility.

Abnormalities during pregnancy.

Abnormalities during parturition. dystocia and obstetric interventions

Puerperium and the newborn.

Introduction to research methods.

## SUSTAINABLE DEVELOPMENT GOALS RELATED TO THE CONTENT

Good health and well-being

## METHODOLOGY

### Methodological adaptations for part-time students and students with disabilities and special educational needs

Specific learning conditions will be provided for part-time and disabled students.

### Face-to-face activities

Activity	Large group	Medium group	Small group	Total
<i>Clinical practice</i>	-	-	22	22
<i>Lab practice</i>	-	30	-	30
<i>Lectures</i>	53	-	-	53
<b>Total hours:</b>	<b>53</b>	<b>30</b>	<b>22</b>	<b>105</b>

### Off-site activities

Activity	Total
<i>Group work</i>	22
<i>Information search</i>	30
<i>Self-study</i>	106
<b>Total hours</b>	<b>158</b>

**COURSE DESCRIPTION****WORK MATERIALS FOR STUDENTS**Case studies - <http://moodle.uco.es/moodlemap/>Dossier - <http://moodle.uco.es/moodlemap/>**EVALUATION**

<b>Intended learning</b>	<b>Document Analysis</b>	<b>Exams</b>	<b>Laboratory Practice</b>
CE37	X	X	X
CE38	X	X	X
CT1			X
CT2			X
CT3			X
CT4		X	X
CT5			X
CT6	X	X	X
CT7	X		
CT8	X		
CU1	X		
CU2	X		
CU3	X		
<b>Total (100%)</b>	<b>10%</b>	<b>60%</b>	<b>30%</b>
<b>Minimum grade</b>	<b>5</b>	<b>5</b>	<b>5</b>

(\*)Minimum mark (out of 10) needed for the assessment tool to be weighted in the course final mark. In any case, final mark must be 5,0 or higher to pass the course.

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### Attendance will be assessed?:

No

### General clarifications on instruments for evaluation:

The minimum rating to pass each evaluation instrument as well as the minimum grade necessary to pass the course is 5.0.

The exam (60%) is written: 50% belongs to the partial exam and 10% belongs to the evaluation in the room lecture, performed in presence throughout the theoretical lectures. There is only one partial exam and if passed the score obtained will be maintained until the end of the course (until the second ordinary call of July).

Practical sessions (30%) will be considered only if there is a minimum attendance of 90%.

### Clarifications on the methodology for part-time students and students with disabilities and special educational needs:

Specific learning conditions will be provided for part-time and disabled students.

### Clarifications on the evaluation of the extraordinary call and extra-ordinary call for completion studies:

Both calls will comprise the lessons explained in the current academic course. The qualification obtained in practices and analysis of documents in the previous academic course can be considered, as long as they meet the minimum qualification of 5.0.

### Qualifying criteria for obtaining honors:

Get a final grade of 10

## BIBLIOGRAPHY

### 1. Basic Bibliography

- Gillian Simpson and Gary CW, (2000). Manual de Reproducción y Neonatología en Pequeños Animales. 1ª edición. Editorial Sorribas.
- Blanchard et al., (2011). Manual of Equine Reproduction. 3ª edición. Editorial Mosby.
- Feldman and Nelson, (2004). Endocrinology and Reproduction. 3ª edición. Editorial Saunders.
- Gary England, (2005). Fertility and Obstetrics in the Horse. 3ª edición. Editorial Blackwell Publishing.
- Jackson, (2004). Handbook of Veterinary Obstetrics. 2ª edición. Editorial Saunders.
- McDonald, (1991). Endocrinología Veterinaria y Reproducción. 4ª edición. Editorial Interamericana McGraw Hill.
- McKinnon and Voss, (2011). Equine Reproduction. 2ª edición. Editorial Lea and Febiger.
- Noakes et al., (2009). Veterinary Reproduction and Obstetrics. 9ª edición. Editorial Saunders.

### 2. Further reading

Ninguna

## COORDINATION CRITERIA

Common tasks for different courses

Joint activities: lectures, seminars, visits ...

## COURSE DESCRIPTION

### Clarifications

Common tasks for different courses

Joint activities: lectures, seminars, visits ...

## SCHEDULE

Period	Clinical practice	Lab practice	Lectures
1# Fortnight	0,0	4,0	4,0
2# Fortnight	2,0	4,0	4,0
3# Fortnight	2,0	3,0	4,0
4# Fortnight	2,0	2,0	4,0
5# Fortnight	2,0	2,0	2,0
6# Fortnight	2,0	2,0	2,0
7# Fortnight	1,0	2,0	2,0
8# Fortnight	0,0	2,0	4,0
9# Fortnight	2,0	2,0	6,0
10# Fortnight	2,0	2,0	6,0
11# Fortnight	2,0	2,0	6,0
12# Fortnight	2,0	2,0	6,0
13# Fortnight	3,0	1,0	3,0
<b>Total hours:</b>	<b>22,0</b>	<b>30,0</b>	<b>53,0</b>

The methodological strategies and the evaluation system contemplated in this Course Description will be adapted according to the needs presented by students with disabilities and special educational needs in the cases that are required.