

COURSE DESCRIPTION

COURSE DETAILS

Title (of the course): **EQUINE ULTRASONOGRAPHY**

Code: 101516

Degree/Master: **GRADO DE VETERINARIA**

Year: 5

Field:

Character: OPTATIVA

Duration: FIRST TERM

ECTS Credits: 3.0

Classroom hours: 30

Face-to-face classroom percentage: 40.0%

Study hours: 45

Online platform:

LECTURER INFORMATION

Name: ESTEPA NIETO, JOSÉ CARLOS (Coordinator)

Department: MEDICINA Y CIRUGÍA ANIMAL

Area: MEDICINA Y CIRUGÍA ANIMAL

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PREREQUISITES AND RECOMMENDATIONS

Prerequisites established in the study plan

Students must hold B1 English level

Recommendations

It is recommended that students have attended the following subjects: Propedéutica Clínica, Diagnóstico por la Imagen, Medicina Interna y Patología Quirúrgica.

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INTENDED LEARNING OUTCOMES

CU1	Proving the ability to use and master a foreign language
CU2	Improving user-level skills in ICT
CU3	Encouraging an active job search and the ability to become an entrepreneur
CT1	Ability to resolve problems.
CT2	Ability to work as a team.
CT3	Ability to put knowledge into practice
CT4	Decision making.
CT5	Acquiring an ethical commitment
CT6	Ability to analyze and synthesize
CT7	Research abilities
CT8	To have developed the incentive for quality
CE28	Diagnosis by image and by radiobiology.

OBJECTIVES

To increase the knowledge about ultrasonography as a valuable tool for the diagnosis, prognosis and treatment of diseases in the equine medicine field.

CONTENT

1. Theory contents

I. Theoretical contents

A. Introduction

1. Physics, instrumentation, artifacts and applicability.

B. Ultrasonography of the Musculoskeletal system

2. Ultrasonography of the Foot
3. Ultrasonography of the Pastern
4. Ultrasonography of the Fetlock
5. Ultrasonography of the Metacarpus
6. Ultrasonography of the Carpus
7. Ultrasonography of the Elbow
8. Ultrasonography of the Shoulder
9. Ultrasonography of the Metatarsus
10. Ultrasonography of the Hock
11. Ultrasonography of the Stifle
12. Ultrasonography of the Pelvis
13. Ultrasonography of the Back
14. Ultrasonography of the Neck
15. Ultrasonography of the Head

C. Ultrasonography of the Thoracic Cavity



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16. Ultrasonography of the Pleural Cavity, Lung, and Diaphragm
17. Ultrasonography of the Heart

D. Ultrasonography of the Abdominal Cavity

18. Ultrasonography of the Liver, Spleen, Kidney, Bladder, and Peritoneal Cavity
19. Ultrasonography of the Gastrointestinal Tract

E. Ultrasonography of the reproductive system

20. Ultrasonography of the Stallion Reproductive Tract
21. Use of Ultrasonography in the Evaluation of the Non-Pregnant Mare
22. Use of Ultrasonography in the Management of the Abnormal Broodmare
23. Transrectal Ultrasonography of Early Equine Gestation
24. Use of Ultrasonography in Twin Management and Equine Fetal Sex Determination
25. Use of Ultrasonography in Fetal Development and Monitoring
26. Ultrasonography of the Post-Foaling Mare

F. Ultrasonography of Small Structures

27. Ultrasonography of the Eye and Orbit
28. Ultrasonography of the Soft Tissue Structures of the Neck
29. Ultrasonography of Vascular Structures
30. Ultrasonography of Umbilical Structures

2. Practical contents

II. Practical contents

Ultrasonographic evaluation of healthy horses and horses with disorders at the Hospital Clínico Veterinario de la Universidad de Córdoba

SUSTAINABLE DEVELOPMENT GOALS RELATED TO THE CONTENT

Unrelated

METHODOLOGY

General clarifications on the methodology (optional)

Individual adjustments will be made for part time students.

A personalized adaptation will be considered

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

Individual adjustments will be made for part time students.

A personalized adaptation will be considered.

Face-to-face activities

Activity	Large group	Medium group	Small group	Total
<i>Assessment activities</i>	1	-	-	1
<i>Case study</i>	6	5	4	15



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Activity	Large group	Medium group	Small group	Total
Group presentation	8	-	-	8
Tutorials	-	-	1	1
Workshop	-	-	5	5
Total hours:	15	5	10	30

Off-site activities

Activity	Total
Information search	15
Reference search	15
Self-study	15
Total hours	45

WORK MATERIALS FOR STUDENTS

Case studies
Oral presentations

EVALUATION

Intended learning	Case Studies	Exams	Oral Presentation
CE28	X	X	X
CT1	X	X	X
CT2	X		X
CT3	X	X	X
CT4	X	X	X
CT5	X		X
CT6	X	X	X
CT7	X		X
CT8	X	X	X
CU1	X	X	X
CU2	X	X	X
CU3			X

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Intended learning	Case Studies	Exams	Oral Presentation
Total (100%)	33%	33%	34%
Minimum grade	4	4	4

(*)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.

Method of assessment of attendance:

Attendance to the the classes and attitude of the student will contribute 33% to the final quotation

General clarifications on instruments for evaluation:

Final quotation will depend on the student attitude, the quality of an oral presentation that students have to prepare during the course and the scoring of a final exam that will be performed at the end of the course.

Quotations of the different criteria will be considered just during the academic year of the course enrollment

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

The peculiarities of these students will be taken into consideration.

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

Final quotation of the convocatoria extraordinaria and convocatoria extraordinaria de finalización de estudios will consider all the quotations of the different criteria reached during the academic year of the course enrollment and the quotation of the related exams

Qualifying criteria for obtaining honors:

Obtaining more than 9 (out of 10) points and having demonstrated superior abilities

BIBLIOGRAPHY

1. Basic Bibliography

- Kidd JA, Lu KG and Frazer ML. Atlas of Equine Ultrasonography. John Wiley and Sons Ltd, 2014
- Rantanen NW, McKinnon AO. Equine diagnostic ultrasonography. Williams and Wilkins, 1998
- Reef VB. Equine dignostic ultrasound. Saunders Company, 1998
- Reef VB. Equine dignostic ultrasound 2nd edition. Saunders Company, 2019

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2. Further reading

- Veterinary radiology and ultrasound

COORDINATION CRITERIA

Common evaluation criteria

Joint activities: lectures, seminars, visits ...

Orientation session

SCHEDULE

Period	Assessment activities	Case study	Group presentation	Tutorials	Workshop
1# Fortnight	0,0	2,0	1,0	0,0	0,0
2# Fortnight	0,0	2,5	1,0	0,0	0,0
3# Fortnight	0,0	2,0	1,0	0,5	0,0
4# Fortnight	0,0	2,0	1,0	0,0	1,0
5# Fortnight	0,0	2,0	1,0	0,0	1,0
6# Fortnight	0,0	1,5	1,0	0,5	1,0
7# Fortnight	0,0	2,0	1,0	0,0	1,0
8# Fortnight	1,0	1,0	1,0	0,0	1,0
Total hours:	1,0	15,0	8,0	1,0	5,0

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.

CONTINGENCY PLAN: CASE SCENARIO A

Case scenario A will correspond to a diminished on-site academic activity due to social distancing measures affecting the permitted capacity of classrooms.

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METHODOLOGY

General clarifications on the methodology on case scenario A

A multimodal (hybrid) teaching system will be adopted, combining both on-site and remote classes via videoconference (synchronous) that will be held in the timetable approved by the corresponding Faculty or School. The time distribution of teaching activities (both on-site and remote) will be decided by the aforementioned Faculties and Schools bearing in mind the permitted capacity of classrooms and social distancing measures as established at that time.

Individual adjustments will be made for part time students.

A personalized adaptation will be considered

EVALUATION

Intended learnig	Case Studies	Exams	Oral Presentation
CE28	X	X	X
CT1	X	X	X
CT2	X		X
CT3	X	X	X
CT4	X	X	X
CT5	X		X
CT6	X	X	X
CT7	X		X
CT8	X	X	X
CU1	X	X	X
CU2	X	X	X
CU3			X
Total (100%)	33%	33%	34%
Minimum grade	4	4	4

(*)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.

Method of assessment of attendance (Scenario A):

Attendance to the the classes and attitude of the student will contribute 33% to the final quotation

COURSE DESCRIPTION

General clarifications on instruments for evaluation (Scenario A):

Final quotation will depend on the student attitude, the quality of an oral presentation that students have to prepare during the course and the scoring of a final exam that will be performed at the end of the course.

Clarifications on the methodology for part-time students and students with disabilities and special educational needs (Scenario A):

The peculiarities of these students will be taken into consideration.

CONTINGENCY PLAN: CASE SCENARIO B

Case scenario B will bring about a suspension of all on-site academic activities as a consequence of health measures.

METHODOLOGY

General clarifications on the methodology on case scenario B

On-site teaching activities will be held via videoconference (synchronous) in the timetable approved by the corresponding Faculty or School. Alternative activities will be proposed for reduced groups in order to guarantee the acquisition of course competences.

Individual adjustments will be made for part time students.

A personalized adaptation will be considered

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EVALUATION

Intended learning	Case Studies	Exams	Oral Presentation
CE28	X	X	X
CT1	X	X	X
CT2	X		X
CT3	X	X	X
CT4	X	X	X
CT5	X		X
CT6	X	X	X
CT7	X		X
CT8	X	X	X
CU1	X	X	X
CU2	X	X	X
CU3			X
Total (100%)	33%	33%	34%
Minimum grade	4	4	4

(*)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.

Moodle Tools	Case Studies	Exams	Oral Presentation
Attendance	X	X	X
Chat	X	X	X
Questionnaire		X	
Videoconference	X	X	X

Method of assessment of attendance (Scenario B):

Attendance to the the classes and attitude of the student will contribute 33% to the final quotation

COURSE DESCRIPTION

General clarifications on instruments for evaluation (Scenario B):

Final quotation will depend on the student attitude, the quality of an oral presentation that students have to prepare during the course and the scoring of a final exam that will be performed at the end of the course.

Clarifications on the methodology for part-time students and students with disabilities and special educational needs (Scenario B):

The peculiarities of these students will be taken into consideration.