COURSE DESCRIPTION

COURSE DETAILS

Title (of the course): **ANATOMÍA PATOLÓGICA GENERAL**
Code: 101466
Degree/Master: **GRADO DE VETERINARIA** Year: 2
Name of the module to which it belongs: FORMACIÓN BÁSICA COMÚN
Field: HISTOLOGÍA Y ANATOMÍA PATOLÓGICA VETERINARIA
Character: BASICA Duration: SECOND TERM
ECTS Credits: 4.5 Classroom hours: 45
Face-to-face classroom percentage: 40.0% Study hours: 68
Online platform: https://moodle.uco.es/m2223/course/view.php?id=1891

LECTURER INFORMATION

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PREREQUISITES AND RECOMMENDATIONS

Prerequisites established in the study plan

None

Recommendations

Have studied Cytology and Histology

INTENDED LEARNING OUTCOMES

CT2

CE26

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OBJECTIVES

1) Transmit fundamental knowledge about lesions at the cellular, tissue and organic level and learning the basic terminology used in Pathology.
2) Knowledge of the mechanisms of host- pathogenic agents (Pathogenesis) and their relation to the signs, symptoms and lesions of diseases.
3) Provide adequate training for the recognition of post-mortem changes, gross and histopathological lesions (cellular, tissue and organic lesions).
4) Training students in the preparation and presentation of seminars, problem solving, as well as in the use of bibliography written in English.

CONTENT

1. Theory contents

PARTE I. INTRODUCCIÓN. LESIONES CELULARES.
Tema 1. Presentación. Concepto de Anatomía Patológica. Relaciones interdisciplinares. Métodos de estudio: Necropsia, biopsia y citología. Introducción a la investigación en Anatomía Patológica.
Tema 2. Cambios adaptativos de la célula: atrofia, hipertrofia, hiperplasia, metaplasia y displasia.
Tema 3. Lesiones celulares irreversibles: necrosis
Tema 4. Apoptosis, piroptosis y necroptosis.
Tema 5. Lesiones reversibles: concepto. Depósitos intracelulares de sustancias: agua, lípidos, hidratos de carbono, y proteínas.
PARTE II. INFLAMACIÓN Y REPARACIÓN.
Tema 6. Concepto de reacción inflamatoria. Fenomenología general: cambios alterativos, vascular y proliferativos. Células y mediadores de la inflamación. Clasificación de la reacción inflamatoria.
Tema 7. Inflamación aguda. Cambios vasculares y fenómenos leucocitarios.
Tema 8. Patrones morfológicos de la inflamación aguda según intensidad y naturaleza del exudado. Evolución de la inflamación aguda.
Tema 9. Inflamación crónica: patrones morfológicos. Inflamación granulomatosa.
Tema 10. Reparación y cicatrización. Regeneración del parénquima.
Tema 11. Lesiones en los trastornos de la inmunidad. Hipersensibilidad e inmunodeficiencias.
PARTE III. CAMBIOS HEMODINÁMICOS Y VASCULARES.
Tema 12. Trastornos del flujo sanguíneo, linfático y del equilibrio de líquidos corporales. Hiperemia. Edema. Linfangiectasia y linforragia.
Tema 13. Trastornos del flujo sanguíneo: Shock. Trastornos de la hemostasia: hemorragia y trombosis. www.uco.
Tema 14. Trastornos del flujo sanguíneo: Infarto. Embolia.
PARTE IV. PIGMENTOS Y DEPÓSITOS EXTRACELULARES DE SUSTANCIAS.
Tema 15. Depósitos de pigmentos endógenos: hemosiderina, pigmento biliar, porfirinas, lipofuscinas, pigmentos ceroide, melanina.
Tema 16. Depósito de pigmentos exógenos. Calcificaciones patológicas. Litiasis.
Tema 17. Depósitos extracelulares de sustancias. Depósitos de ácido úrico-uratos. Hialina extracelular. Amiloidosis. Degeneración de la sustancia fundamental.
PARTE V. TRASTORNOS DEL CRECIMIENTO Y NEOPLASIAS.
Tema 18. Neoplasia: concepto, nomenclatura y clasificación de las neoplasias. Subclasificación de los tumores malignos: grados y estadios.
Tema 19. Base genética de las neoplasias. Etiopatogenia de las neoplasias.
Tema 20. Epidemiología general de los tumores animales. Trastornos del desarrollo orgánico: Malformaciones.

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2. Practical contents

SECTION I. Postmortem changes:
Practice 1.- Postmortem changes.
SECTION II. Description of gross lesions and morphological diagnosis:
Practice 2.- Methodology and systematics for the description of gross lesions I.
Practice 3.- Methodology and systematics for the description of gross lesions II.
SECTION III. Recognition and description of gross and microscopical lesions:
Practice 4.-. Adaptive changes, necrosis and deposits of intracellular substances.
Practice 5.- Acute and subacute inflammation.
Practice 6.- Chronic inflammation and repair.
Practice 7.- Circulatory and immunity disorders.
Practice 10.- Intracellular deposits of substances.
Practice 11.- General microscopic characteristics of neoplasms.
SECTION VI. Learning based on problem resolution:
Practice 8.-Tutoring in a medium group to advise and resolve doubts about the work.
Practice 9.- Presentation and discussion of the work.

SUSTAINABLE DEVELOPMENT GOALS RELATED TO THE CONTENT

Quality education
Gender equality

METHODOLOGY

General clarifications on the methodology (optional)

Team work and group exposure will consist of work with problem images to describe lesions, perform morphological diagnosis, as well as to answer a series of questions about each picture. This activity will be carried out in English and in groups of no more than 4 students.

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

The specific particularities of the students who study the Degree part-time will be taken into account and will agree in meetings between teachers and affected students, the methodological adaptations that ensure to achieve the competences and the fulfillment of the objectives of the subject.

Face-to-face activities

Activity	Large group	Medium group	Small group	Total
Assessment activities	1.5	0.5	-	2.0
Group presentation	-	2	-	2
Lab practice	-	8	10	18
Lectures	21	-	-	21
Tutorials	-	2	-	2
Total hours:	***22.5***	***12.5***	***10***	***45.0***

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Off-site activities

Activity	Total
Activities	4
Exercises	2
Group work	6
Information search	6
Reference search	6
Self-study	44
Total hours	***68***

WORK MATERIALS FOR STUDENTS

Case studies
Lessons summary
Oral presentations
References

Clarifications

Practical cases and assumptions PowerPoint Presentations Bibliographic references Topic Summaries,
The presentations of the theoretical and practical lessons and summaries of the theoretical lessons will be made available to the students in Moodle. The online exercises on practical cases (images) will be carried out through Moodle. The images and questions for the work with problem images will be made available to the students in Moodle. Subject summaries and bibliographical references are also made available to students in Moodle.

EVALUATION

Intended learning	Exams	Laboratory Practice	Oral Presentation	Problem solving	Real and/or simulated tasks
CE26	X	X	X	X	X
CT2			X		X
Total (100%)	***40%***	***10%***	***10%***	***10%***	***30%***
Minimum grade	***4.5***	***4***	***4***	***4***	***4.5***

(*)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:

Attendance to theoretical and practical classes is mandatory for first-time students. The theoretical exam consists of two parts (questionaire with short answer and three questions to answere in 1 hour). It is necessary to obtain a minimum of 4 in each of the two parts of the exam and in the rest of the assessment instruments. The final average grade must be 5 out of 10 to pass the subject. The practical exam consists of two tests of practical assumptions (description of macroscopic lesions and microscopic, morphological diagnosis and a question about postmortem changes). A minimum mark of 4.5 must be obtained in both the theoretical and practical exams to consider the other evaluation instruments.

The teamwork will be about a work carried out with problem images that will be carried out in groups of 4 students and will be Written and presented in English. Two online questionnaires will be carried out on images of macroscopic and microscopic lesions. In the practices of laboratory (microscopy) real and/or simulated task execution tests will be carried out (answering questions on macro or microscopic images) on the lesions that have been studied in practice. The qualifications of the theoretical and practical exams are saved during the academic year. The rest of evaluable activities are saved indefinitely.

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

The final evaluation of part-time students will take into account all the aspects outlined; it will be necessary Obtain a minimum grade of 4.5 out of 10 in exams and in the rest of the evaluation instruments to calculate the final grade. In agreement with the students, measures will be adopted to facilitate access to learning to students with who take the degree part-time. The note Minimum final average to pass the subject will be 5 out of 10

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

The final evaluation of part-time students will take into account all the aspects outlined; it will be necessary obtain a minimum grade of 4.5 out of 10 in exams and in the rest of the evaluation instruments to calculate the final grade. Except for the qualification of the exams, that of the rest of the evaluation instruments is saved from one academic year to the next.

Qualifying criteria for obtaining honors:

9 or more points

BIBLIOGRAPHY

1. Basic Bibliography

Cheville NF (2006). Introduction to Veterinary Pathology. Thrid Ed. Blanckwell Publishing. Ames.USA. - Cheville N. (1993). Introducción ala Patología Veterinaria.2ª Ed. Acribia, Zaragoza. -

Dunlop R.H. MalbertCH.(2004). Veterinary Pathophysiology. BlackwellPublishing,Iowa,USA.

Gázquez A. (2010). Anatomía Patológica General Veterinaria. Ediciones CEP Humanes, Madrid.

Kumar, Abbas, Aster. Robbins y Cotran. Patología estructural y funcional. 10ª edición. 2021. Saunder, Elsevier.

Kumar.Robbins patología esencial (2021) Elsevier. Ebook. Versión reducida en español para estudiantes de Medicina.

McGavin JD, Zachary JF. (2021). Pathologic Basis of Veterinary Disease. 7ª ed. Mosby Elsevier

Van Dijk, J.E., Gruys, E and Mouwen J.M.V.M. (2007). Color Atlas of Veterinary Pathology. Second Ed. Saunders Elsevier.

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Wheather PR, Steven A, Lowe JS, Young B. (2003). Histopatología básica. Texto y atlas en color. 4ª edición, Elsevier, Madrid.
Zachary JF. (2022). Pathologic Basis of Veterinary Disease. 7ª edición, Mosby Elsevier.

2. Further reading

Jubb KVF, Kennedy PC, Palmer N. (2016). Pathology of Domestic Animals. Saunders Elsevier,Edinburg.
Meuten DJ. (2016).Tumors in Domestic Animals. 5ª edición. IowaStatePress.
Withrow SJ, MacEwen EG. (2013). Small Animal Clinical Oncology. 5ª Edición. Elsevier. Saunders. St Louis.

COORDINATION CRITERIA

Common evaluation criteria

SCHEDULE

Period	Assessment activities	Group presentation	Lab practice	Lectures	Tutorials
1# Fortnight	0,0	0,0	2,0	4,0	0,0
2# Fortnight	0,0	0,0	4,0	2,0	0,0
3# Fortnight	0,0	0,0	0,0	2,0	0,0
4# Fortnight	0,0	0,0	4,0	4,0	0,0
5# Fortnight	0,0	0,0	4,0	4,0	0,0
6# Fortnight	0,0	0,0	0,0	0,0	2,0
7# Fortnight	0,0	2,0	2,0	2,0	0,0
8# Fortnight	2,0	0,0	2,0	3,0	0,0
Total hours:	***2,0***	***2,0***	***18,0***	***21,0***	***2,0***

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.