

## COURSE DESCRIPTION

### COURSE DETAILS

Title (of the course): **ANATOMÍA PATOLÓGICA SISTEMÁTICA**

Code: 101470

Degree/Master: **GRADO DE VETERINARIA**

Year: 3

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

Field: ANATOMÍA PATOLÓGICA SISTEMÁTICA

Character: OBLIGATORIA

Duration: ANUAL

ECTS Credits: 9.0

Classroom hours: 90

Face-to-face classroom percentage: 40.0%

Study hours: 135

Online platform: <https://moodle.uco.es/m2223/course/view.php?id=2346>

### LECTURER INFORMATION

Name: MENDEZ SANCHEZ, ANICETO (Coordinator)

Department: ANATOMÍA Y ANATOMÍA PATOLÓGICA COMPARADAS Y TOXICOLOGÍA

Area: ANATOMÍA Y ANATOMÍA PATOLÓGICA COMPARADAS

Office location: EDIFICIO DE SANIDAD ANIMAL. SEGUNDA PLANTA. CAMPUS DE RABANALES.

E-Mail: [an1mesaa@uco.es](mailto:an1mesaa@uco.es)

Phone: 957218680

URL web: <http://www.uco.es/organiza/departamentos/anatomia-y-anat-patologica/>

Name: GÓMEZ LAGUNA, JAIME

Department: ANATOMÍA Y ANATOMÍA PATOLÓGICA COMPARADAS Y TOXICOLOGÍA

Area: ANATOMÍA Y ANATOMÍA PATOLÓGICA COMPARADAS

Office location: EDIFICIO DE SANIDAD ANIMAL. SEGUNDA PLANTA. CAMPUS DE RABANALES.

E-Mail: [v92golaj@uco.es](mailto:v92golaj@uco.es)

Phone: 957218162

URL web: <http://www.uco.es/organiza/departamentos/anatomia-y-anat-patologica/>

Name: PALLARÉS MARTÍNEZ, FRANCISCO

Department: ANATOMÍA Y ANATOMÍA PATOLÓGICA COMPARADAS Y TOXICOLOGÍA

Area: ANATOMÍA Y ANATOMÍA PATOLÓGICA COMPARADAS

Office location: EDIFICIO DE SANIDAD ANIMAL. SEGUNDA PLANTA. CAMPUS DE RABANALES.

E-Mail: [fpallares@uco.es](mailto:fpallares@uco.es)

Phone: 957218162

URL web: <http://www.uco.es/organiza/departamentos/anatomia-y-anat-patologica/>

### PREREQUISITES AND RECOMMENDATIONS

#### Prerequisites established in the study plan

Prerequisites established in the study plan

The B1 in english is REQUIRED to take this subject.

#### Recommendations

None specified

## COURSE DESCRIPTION

### INTENDED LEARNING OUTCOMES

CT1	Ability to resolve problems.
CT2	Ability to work as a team.
CT3	Ability to apply knowledge in a practical way.
CE30	Autopsy and its applications
CE31	Diagnosis of different type of injuries and its association to pathological processes

### OBJECTIVES

Study of the alterations of cells, tissues and organs grouped in devices and systems to reach a diagnosis of animal diseases and make the differential diagnosis with other diseases possible. Knowledge, identification and discussion of gross and microscopic lesions, their pathogenesis, the most common diseases, and the compulsory notifiable diseases of wild and domestic animals. Carrying out the necropsy, interpretation of the lesions, issuance of the report and collection of samples. Issue a diagnosis. Contribution of solutions

### CONTENT

#### 1. Theory contents

##### 1. Theoretical contents

#### THEORETICAL PROGRAM

##### I. TEGUMENTARY SYSTEM

UNIT 1.- SKIN: Response to injury. Elementary lesions. Histopathological characteristics of the primary lesions. Histopathological characteristics of secondary lesions. Most frequent patterns in dermatopathology. Congenital and hereditary diseases.

UNIT 2.- DERMATITIS: Physical and chemical causes. Viral. Bacterial. Fungal Parasitic. Nutritional. Endocrine. Allergic. Autoimmune. Neoplasms.

##### II. ORGANS OF THE SENSES

UNIT 3.- EYE: Eyelids. Lacrimal apparatus. Conjunctiva. Uvea anterior. Glaucoma. Crystalline. Hereditary retinopathies. Chorioretinitis. Detached retina. ORBIT: Non-inflammatory and inflammatory lesions. EAR: External ear. Middle and inner ear. Neoplasms.

##### III. LOCOMOTIVE SYSTEM

UNIT 4.- BONES: Metabolic disorders: rickets, osteomalacia, osteodystrophy and osteoporosis. Osteopetrosis. Hypertrophic osteopathy. Osteitis, osteomyelitis and periosteitis. Pathological fractures. Neoplasms.

UNIT 5.- JOINTS: Osteoarthritis. Arthritis and peri-arthritis. VERTEBRAL COLUMN: Spondylitis.

Degenerations of the intervertebral disc.

UNIT 6.- MUSCLE: Variations in muscle mass. Metabolic disturbances. Degenerations and necrosis. Myositis.

Neoplasms. Parasitic lesions. TENDONS AND TENDINOUS SACS: Tendinitis and Bursitis.

##### IV.-RESPIRATORY SYSTEM

UNIT 7.- NASAL CAVITY: Developmental disorders. Metabolic disturbances Circulatory disorders. Rhinitis. Neoplasms. Parasitic lesions. SINUS INJURIES. INJURIES OF THE GUTURAL POUCH: Emphysema of the guttural pouch. Bursitis.

UNIT 8.- LARYNX and TRACHEA: Developmental disorders. Metabolic disturbances. Circulatory disorders. Laryngitis and tracheitis. Neoplasms. Parasitic lesions. BRONCHIA: Modifications of the bronchial lumen. Bronchitis.

UNIT 9.- LUNGS: Postmortem alterations. Developmental disorders. Atelectasis or lung collapse. Emphysema. Pigmentations and infiltrations. Bone metaplasia. Circulatory disorders.

UNIT 10.- PNEUMONIA: Classification according to its pathogenesis. Lobar pneumonia or bronchopneumonia. Interstitial pneumonia. Bronchointerstitial pneumonias. Embolic-metastatic pneumonia.



## COURSE DESCRIPTION

UNIT 11.- PNEUMONIA: comparative study of pneumonia in different species of domestic animals. Granulomatous pneumonias. Neoplasms.

### V. CIRCULATORY SYSTEM

UNIT 12.- HEART: Postmortem alterations. Malformations. Heart failure: intrinsic and systemic responses. Altitude sickness. PERICARDIUM: Postmortem alterations. Malformations. Abnormal content of the pericardial sac. Metabolic disturbances. Pericarditis.

UNIT 13.- MYOCARDIUM: Postmortem alterations. Myocardiosis: degenerative lesions, necrosis and calcifications. Cardiomyopathies. Vascular injuries. Rupture of the heart. Myocarditis. Myocardial neoplasms. Parasitic lesions.

UNIT 14.- ENDOCARDIUM: Calcifications. Melanosis. Vascular lesions. Endocardial sclerosis. Endocarditis. Parasitic lesions.

UNIT 15.- ARTERIES: Spontaneous ruptures. Hypertrophy of the wall of the arteries. Aneurysms. Degenerations and infiltrations. Arteritis. VEINS: Ruptures and anastomosis. Varicose veins. Phlebitis. LYMPHATIC VESSELS: Congenital anomalies. Dilation and rupture. Lymphangitis.

### VI. HEMATIC SYSTEM

UNIT 16.- BONE MARROW: Generalities. ANEMIAS: Generalities. Clinical signs and symptoms of anemias. General gross findings of anemias at necropsy. Congenital porphyria. Bone marrow injuries in anemias. POLICITEMIA. LEUCOSIS. BLEEDING DIATESES: Vascular alterations. Platelet disorders. Alterations of coagulation factors.

### VII. DIGESTIVE SYSTEM

UNIT 17.- ORAL CAVITY AND PHARYNX: Congenital malformations. Pigmentations. Metabolic disturbances. Circulatory disorders. Stomatitis. Tonsillitis. Neoplasms. Parasitic lesions.

UNIT 18.- SALIVARY GLANDS: Non-inflammatory disorders. TEETH: Hypoplasia of the dental enamel. Abnormal dental mobility and incisor drop. Dental tartar. Abnormal colorations. Tooth decay. Inflammation of the teeth and dental alveoli. ESOPHAGUS: Malformations. Metabolic disturbances. Changes in the lumen. Esophageal ruptures. Esophagitis. Neoplasms. Parasitic lesions. CROP OF THE BIRDS: Atony. Inflammation.

UNIT 19.- GASTRIC DIVERTICLES OF RUMINANTS: Postmortem alterations. Metabolic disturbances. Dilatation of the diverticula. Strange bodies. Ruminitis. Reticulitis Omasitis. Neoplasms. Parasitic lesions. STOMACH: Postmortem alterations. Displacement of the stomach. Rupture of the stomach. Metabolic disturbances. Gastric ulcers. Vascular disorders. Gastritis. Neoplasms. Parasitic lesions.

UNIT 20.- INTESTINE: Postmortem alterations. Congenital malformations. Modifications of the intestinal lumen. Pigmentations. Circulatory disorders.

UNIT 21.- ENTERITIS: Classification according to its pathogenesis.

UNIT 22.- ENTERITIS: comparative study of enteritis in different species of domestic animals. Neoplasms.

UNIT 23.- LIVER: Postmortem alterations. Malformations Atrophy and hypertrophy. Metabolic disturbances. Degenerative and necrotic alterations.

UNIT 24.-Pigmentations. Circulatory disorders. Parenchymal hepatitis.

UNIT 25.-Acute and subacute interstitial hepatitis. Chronic interstitial hepatitis: sclerosis and cirrhosis. Special hepatitis. Neoplasms. Parasitic lesions.

UNIT 26.- GALLBLADDER and BILE DUCTS: Cadaveric alterations. Congenital malformations. Obstruction and dilation. Gallstones (cholelithiasis) Hyperplasia. Bleeding. Cholecystitis. Neoplasms. EXOCRINE PANCREAS: Postmortem alterations. Malformations. Excretory duct stones (pancreatic lithiasis). Pigmentations. Circulatory disorders. Pancreatitis. Nodular hyperplasia. Neoplasms.

### VIII. URINARY SYSTEM

UNIT 27.- KIDNEY: Cadaveric alterations. Malformations. Glomerulonephrosis.

UNIT 28.-Tubulonephrosis by accumulation. Tubulonephrosis with stone deposition. Pigmentary tubulonephrosis. Acute tubular necrosis.

UNIT 29.-Circulatory injuries. Glomerulonephritis. Interstitial nephritis. Non-purulent or suppurative interstitial nephritis. Purulent interstitial nephritis. Special nephritis.

UNIT 30.- Pyelonephritis. Neoplasms. INJURIES OF THE URINARY TRACT: Postmortem alterations. Congenital malformations. Bladder displacements. Dilations of the bladder. Hypertrophy of the bladder wall. Bladder

## COURSE DESCRIPTION

ruptures. Urolithiasis. Vascular lesions. Cystitis. Neoplasms.

### IX. LYMPHORETICULAR SYSTEM

UNIT 31.- LYMPH NODES: Metabolic disorders. Circulatory disorders. Lymphadenitis. Neoplasms.

UNIT 32.- SPLEEN: Postmortem alterations. Developmental disorders. Metabolic disturbances. Circulatory disorders.

UNIT 33.-SPLEEN: Splenitis. Differential diagnosis of splenomegaly. Neoplasms. THYMUS: atrophy; bleeding; inflammations; neoplasms. BURSA OF FABRICIO: Aplasia. Hypoplasia. Bursitis. Neoplasms.

### X. REPRODUCTIVE SYSTEM

UNIT 34.- TESTICLE, EPIDIDIMUM AND VAGINAL TUNES: Non-inflammatory lesions. Orchitis Epididymitis. Periorchitis Neoplasms. PROSTATE: Non-inflammatory lesions. Prostatitis. Neoplasms. GLANS AND PREPUCIUM: Non-inflammatory lesions. Balanitis. Posthitis. Neoplasms.

UNIT 35.- OVARY: Non-inflammatory lesions. Oophoritis. Endocrine disorders. Neoplasms. OVIDUCT: Non-inflammatory lesions. Salpingitis. UTERUS: Endometrial hyperplasia. Endometritis and metritis. Neoplasms

UNIT 36.- GESTATION PATHOLOGY: Extrauterine pregnancies. Torsion of the gravid uterus. Alterations of the placenta. Embryonic and fetal death. Prolonged pregnancy. Afterbirth retentions. VAGINA AND VULVA: Non-inflammatory lesions. Vaginitis and vulvitis.

UNIT 37.- MAMMARY GLAND: Non-inflammatory lesions. Mastitis. Neoplasms. FEMALE GENITAL SYSTEM IN BIRDS: Non-inflammatory lesions. Oophoritis and salpingitis. Neoplasms

### XI. ENDOCRINE SYSTEM

UNIT 38.- HYPOPHYSIS: Adenohypophysis, hypo- and hyper-pituitarism. Inflammations. Neurohypophysis: Diabetes insipidus. Neoplasms. THYROID GLAND: Hipo- and hyper-thyroidism. Inflammations. PARATHYROID GLAND: Hipo- and hyper-parathyroidism. Thyroid and parathyroid neoplasms.

UNIT 39.- ADRENAL GLANDS: Non-inflammatory lesions. Adrenitis. Hipo- and hyper-adrenocorticalism. Adrenogenital syndrome. Neoplasms. ENDOCRINE PANCREAS: Hipo- and hyper-function. Neoplasms.

### XII. NERVOUS SYSTEM

UNIT 40.- MENINGES: Postmortem injuries. Metabolic disturbances. Circulatory disorders. Meningitis.

UNIT 41.-BRAIN AND SPINAL CORD: Malformations. Degenerative and necrotic lesions. Pigmentations. Vascular disorders. Encephalitis: not purulent and purulent.

UNIT 42.-Special inflammations. Parasitic lesions. Neoplasms.

## 2. Practical contents

1. Practical contents

2. Practical contents.-

The course consists of 2 types of practices:

- 1st Type: Carrying out necropsies, identification of lesions, issuance of the report and collection of samples: Each student will carry out 9+1 practices (in groups of maximum 12 students) of 2.5 hours each. Total 22.5 hours of Necropsies (2.25 ECTS). The last practice will be carried out at the Diagnostic Lab, and the students will have to present and discuss in groups of 3 students a selected clinical case out of those seen at the necropsy hall. Attendance is compulsory. Group changes will not be allowed, nor will it be possible to stop attending your chosen group for unjustified reasons. If you do not attend the practice, after informing the coordinator of the subject, you must provide proof of the reason for the absence for the record. Failure to comply with these rules implies do not pass the subject.

- 2nd Type: Discussion sessions and interpretation of images of the main lesions of each apparatus and organic system: Each student will carry out 20 practices, with an approximate weekly periodicity, and of 1 hour duration (20 hours, 2 ECTS). Attendance is compulsory. The student will be encouraged to intervene in the practical classes. Failure to comply with these rules implies do not pass the subject.

At least an 80% of attendance to the practical activities will be required to pass the subject.

## COURSE DESCRIPTION

### SUSTAINABLE DEVELOPMENT GOALS RELATED TO THE CONTENT

Good health and well-being  
 Quality education  
 Gender equality  
 Clean water and sanitation  
 Decent work and economic growth

### METHODOLOGY

#### General clarifications on the methodology (optional)

Attendance at practices is compulsory. However, the characteristics of the part-time student will be taken into account.

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

The characteristics of the part-time students and students with disabilities and special education needs, whenever it is justified, will be taken into account. Group facilities and schedules will be given.

#### Face-to-face activities

Activity	Large group	Medium group	Small group	Total
<i>Case study</i>	-	20	-	20
<i>Lab practice</i>	-	-	25	25
<i>Lectures</i>	42	-	-	42
<i>Seminar</i>	3	-	-	3
<b>Total hours:</b>	<b>45</b>	<b>20</b>	<b>25</b>	<b>90</b>

#### Off-site activities

Activity	Total
<i>Activities</i>	20
<i>Analysis</i>	25
<i>Exercises</i>	20
<i>Group work</i>	10
<i>Information search</i>	10
<i>Reference search</i>	10
<i>Self-study</i>	40

## COURSE DESCRIPTION

Activity	Total
<b>Total hours</b>	<b>135</b>

## WORK MATERIALS FOR STUDENTS

Coursebook - *Subject manual* - <https://moodle.uco.es/m2223/course/view.php?id=2346>

Dossier - *Documentation dossier* - <https://moodle.uco.es/m2223/course/view.php?id=2346>

Lessons summary - *Summary Lessons* - <https://moodle.uco.es/m2223/course/view.php?id=2346>

Oral presentations - *Oral presentations-PowerPoint* - <https://moodle.uco.es/m2223/course/view.php?id=2346>

Placement booklet - *Practice Notebook* - <https://moodle.uco.es/m2223/course/view.php?id=2346>

### Clarifications

Students will be provided with information on the Theoretical and Practical Classes, in text, in images, in Power Point presentations, videos, practical cases of necropsies, links to webpages of educational interest, Veterinary Systemic Pathological Anatomy Book, electronic books, etc. in the Virtual Moodle Platform of UCO. The student must respond to the seminars, the teaching project, the addressed tasks and activities that are prepared for each unit or group of units, theoretical or practical, and will be graded by the teachers.

The teaching staff will edit 2 practice notebooks, one for each midterm exam, to facilitate the learning and discussion of images that the student will complete during the practice sessions and which they will be graded by the teaching staff. Once graded, the students will have to bring back their notebooks. The didactic work materials will be uploaded to the Moodle Virtual Platform after each theoretical class and will be presented on the Moodle Platform until the completion of each midterm exam, in order to take a continuous assessment of the student along the subject.

Once the first midterm exam has been completed and then the second midterm exam, the provided teaching materials will be removed from the Virtual Moodle Platform.

Students must enrol or register, on a mandatory basis, at the beginning of the course (within the first week's deadline) in the Moodle Virtual Platform with all their personal data, with a ID size photograph, being only valid an adequate photograph, in such a way that the teacher can easily identify the student, and contact him or her, at any time that is necessary. If the photographs are not academically adequate, the student may be eliminated from the platform, or else, penalized with 2 points less in the final grade. For non-compliance with these rules, the right to the theoretical and practical exam will be lost. The Virtual Moodle Platform will be the informative connection tool between the student and the teaching staff in all matters relating to academic and regulatory issues, preparation of practice groups, announcement of theoretical and practical schedules, location of theory classrooms, location of the necropsy room and location of the classroom for the development of the practices of identification and discussion of lesions, the classroom of each midterm exam, as well as adaptation of schedules due to holidays. Likewise, the Virtual Moodle Platform will be used for virtual tutorials.

In the partial and final exams of the subject, students will NOT be able to obtain a 0 in any of their answers. If a 0 (zero) is observed in any of the answers when adding the grades obtained by the student in the exam, the midterm or final exam, it is considered not passed and the grade for this exam is 0 (zero) throughout the exam.

In the final exam of the subject, the student will be able to examine the whole subject or that part that he has not passed in the partial exams and they will be jointly graded.

## EVALUATION





## COURSE DESCRIPTION

Intended learning	Debate	Exams	Laboratory Practice	Practice Book	Problem solving	Project
CE30	X	X	X	X	X	X
CE31	X	X	X	X	X	X
CT1	X	X	X	X	X	X
CT2	X	X	X	X	X	X
CT3	X	X	X	X	X	X
<b>Total (100%)</b>	<b>10%</b>	<b>50%</b>	<b>10%</b>	<b>10%</b>	<b>10%</b>	<b>10%</b>
<b>Minimum grade</b>	<b>5</b>	<b>5</b>	<b>5</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.

### Method of assessment of attendance:

Attendance to theoretical classes will be graded up to 10%

### General clarifications on instruments for evaluation:

ASSESSMENT In the final evaluation of the subject the following will be taken into account: The attendance to Theoretical Classes will be taken into account to assess the interest, use and the realization of a continuous evaluation of the student. 1º.- Carrying out 2 partial exams (December and May) and passing the Subject with a minimum of 6 out of 10 total points. Or take the final exam of the Subject in the June and July calls and obtain a minimum of 5 points out of 10 total points. If the Qualification of 6 is not exceeded, no other sections will be added. The Theoretical-Practical Exam adds 50% of the Final Mark. 2º.-Performing the Necropsy Practices is mandatory. The work prepared and exposed to the teaching staff and classmates will be valued up to 10% of the Final Grade for the Subject. 3º.-Attendance to Discussion Practices is mandatory. The intervention and active participation in the Discussion and Debate Practices is mandatory and is scored with 10% of the Final Note. 4º.- The Discussion Practice Booklets, volume 1 and volume 2, which will be delivered to the teacher, will be valued up to 10º of the Final Mark of the Subject. 5º.- Attendance at the Seminars is mandatory. Subsequent completion of Questionnaires will lead to obtaining a Qualification that will add up to 10% of the Final Grade for the Subject. 6º.- The completion of the Teaching Project or Projects in the Moodle Virtual Platform will generate a file that must be uploaded to the Task in Moodle, for evaluation by the Professor, it will result in a grade that will add up to 10% of the Note End of the Subject. The subject must be taken and fully qualified, topics 1 to 42 plus 3 seminars. There will be no qualifications or partial eliminations of matter or topics of the Subject studied in other centers. For Erasmus exchange students, there will be no exceptions for parts of the subject. At least 6 must be obtained to eliminate the subject in the partial exams and 5 in the Final Theoretical-Practical Exam, to pass the subject. In the Final Exam (June or July) the student must take the entire subject, or that subject, or subjects, that they have not passed in partial exams. Afterwards, other qualifications can be added that will improve the final grade for the subject. As long as a 5 is not achieved in the exam, the rest of the qualifications are not added.

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

ASSESSMENT In the final evaluation of the subject the following will be taken into account: The attendance to Theoretical Classes will be taken into account to assess the interest, use and the realization of a continuous

## COURSE DESCRIPTION

evaluation of the student. 1º.- Carrying out 2 partial exams (December and May) and passing the Subject with a minimum of 6 out of 10 total points. Or take the final exam of the Subject in the June and July calls and obtain a minimum of 5 points out of 10 total points. If the Qualification of 6 is not exceeded, no other sections will be added. The Theoretical-Practical Exam adds 50% of the Final Mark. 2º.-Performing the Necropsy Practices is compulsory. The work prepared and exposed to the teaching staff and classmates will be valued up to 10% of the Final Grade for the Subject. 3º.-Attendance to Discussion Practices is mandatory. The intervention and active participation in the Discussion and Debate Practices is mandatory and is scored with 10% of the Final Note. 4º.- The Discussion Practice Booklets, volume 1 and volume 2, which will be delivered to the teacher, will be valued up to 10% of the Final Mark of the Subject. 5º.- Attendance at the Seminars is mandatory. Subsequent completion of Questionnaires will lead to obtaining a Qualification that will add up to 10% of the Final Grade for the Subject. 6º.- The completion of the Teaching Project or Projects in the Moodle Virtual Platform will generate a file that must be uploaded to the Task in Moodle, for evaluation by the Professor, it will result in a grade that will add up to 10% of the Note End of the Subject. The subject must be taken and fully qualified, topics 1 to 42 plus 3 seminars. There will be no qualifications or partial eliminations of matter or topics of the Subject studied in other centers. For Erasmus exchange students, there will be no exceptions for parts of the subject. At least 6 must be obtained to eliminate the subject in the partial exams and 5 in the Final Theoretical-Practical Exam, to pass the subject. In the Final Exam (June or July) the student must take the entire subject, or that subject, or subjects, that they have not passed in partial exams. Afterwards, other qualifications can be added that will improve the final grade for the subject. As long as a 5 is not achieved in the exam, the rest of the qualifications are not added. This type of part-time student, whenever justified, will be given facilities as far as possible

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

The interest, continuous evaluation and academic situation of the student will be taken into account.

### Qualifying criteria for obtaining honors:

*The students who obtain the best grades. The fact of being a Collaborating Student of the Department will be added.*

## BIBLIOGRAPHY

### 1. Basic Bibliography

- 1.-Andrews, J.J. (1990). Técnicas de necropsia. Prácticas en animales de consumo. Clínicas Veterinarias de Norteamérica. Ed. Inter-Vet, Buenos Aires.
- 2.-Blowey, R.W., Weaver, A.D. (2003). Color Atlas of Diseases and Disorders of Cattle. Second Edition. Ed. Mosby.
- 3.-Carrasco L., M.A. Sierra, J.C. Gómez-Villamandos, A. Méndez (2002). Atlas de Anatomía Patológica Veterinaria. Editado por el Departamento de Anatomía y Anatomía Patológica Comparadas, Universidad de Córdoba.
- 4.-Ferrer, L.M.; García de Jalón, J.A. y De las Heras, M. (2002). Atlas de Patología Ovina. Editorial Server. Zaragoza.
- 5.-Franco, A.; Aguado, C.; Franco, C. y Gómez, J.C. (2002). Bases Anatómicas en la Inspección Sanitaria Postmortem. Guía práctica y atlas fotográfico. Edita Junta de Extremadura. Mérida.
- 6.-Gázquez, A. (1988). La Necropsia en los Mamíferos Domésticos. Ed. Interamericana McGraw-Hill, Madrid.
- 7.-Gázquez, A. y Sierra, M.A. (2012). Anatomía Patológica Sistémica Veterinaria. Librería Técnica Universitaria. Figueroa-2. Cáceres. España.
- 8.-Herenda, D.C., Franco, D.A. (1991). Food Animal Pathology and Meat Hygiene. Ed. Mosby Years Book, St. Louis.
- 9.-HIEPE, TH. Enfermedades de la Oveja. Editorial Acribia. Zaragoza, España. 1972.
- 10.-Jubb KVF, Kennedy Peter C, Palmer Nigel, Maxie M. Grant: Jubb, Kennedy and Palmer's Pathology of domestic animals. 3 volúmenes. Ed M. Grant Maxie. Saunders-Elsevier, 20016.
- 11.-Knottenbelt, D.C. and Pascoe, R.R. (1994). Color Atlas of Diseases and Disorders of the Horse. Editorial



## COURSE DESCRIPTION

Wolfe Publishing. Barcelona.

12.-Mc Gavin MD and Zachary JF. Pathologic basis of Veterinary disease. Mosby Elsevier, 2007.\* Dijk JE, Gruys E, Mouwen, JMVM. Color atlas of veterinary pathology: general morphological reactions of organs and tissues. Ed JE van Dijk, E Gruys and JMVM Mouwen. Saunders-Elsevier. 2007.

13.-Mouwen, v. G.; Pospischil, A.; Pohlenz, F. and Guarda, F. (2002). Colour Atlas of Veterinary Pathology of the Alimentary Tract. Cristiano Giraldi Editori. Bologna, Italia.

14.-Pugh, D.G. (2002). Sheep and Goat Medicine. Editorial W.B. Saunders Company. Philadelphia.

15.-Randall, C. J. (1989). Atlas en Color de las Enfermedades de las Aves Domésticas y de Corral. Ed. Interamericana Mc Graw-Hill, Madrid.

16.-Rooney, J.R. and Robertson, J.L. (1996). Equine Pathology. Iowa State University Press. Iowa.

17.-Smith, W.J., Taylor, D.J., Penny, R.H.C. (1990). Atlas en Color de Patología Porcina. Ed. Interamericana McGraw-Hill, Madrid.

18.-Wiggings, G.S. (1990). Atlas de Inspección de Carnes y Aves de Corral. Ed. Medical Publishers, London.

### 2. Further reading

Necropsy Show and Tell. Dr John M. King: <https://secure.vet.cornell.edu/nst/nst.asp>

Veterinary Pathology (journal): <http://vet.sagepub.com/content/by/year>

European Collegue of Veterinary Pathology - ECVPath: <http://www.ecvpath.org/>

British Society of Veterinary Pathology - BSVP: <http://www.bsvp.org/>

American Collegue of Veterinary Pathology - ACVP: <http://www.acvp.org/>

3tres3 - Atlas: <https://www.3tres3.com/atlas/>

SESC: <http://www.cresa.cat/blogs/sesc/?lang=es>

## COORDINATION CRITERIA

Joint activities: lectures, seminars, visits ...

Tasks deadlines

Tasks performance

### Clarifications

Joint activities: lectures, seminars, visits ...

Tasks deadlines

Tasks performance

## SCHEDULE

Period	Case study	Lab practice	Lectures	Seminar
1# Week	1,0	1,0	2,0	0,0
2# Week	0,0	1,0	1,0	0,0
3# Week	1,0	1,0	2,0	0,0

**COURSE DESCRIPTION**

<b>Period</b>	<b>Case study</b>	<b>Lab practice</b>	<b>Lectures</b>	<b>Seminar</b>
4# Week	0,0	1,0	1,0	0,0
5# Week	1,0	1,0	2,0	0,0
6# Week	1,0	1,0	2,0	0,0
7# Week	1,0	1,0	2,0	0,0
8# Week	0,0	1,0	2,0	0,0
9# Week	1,0	1,0	2,0	0,0
10# Week	1,0	1,0	2,0	0,0
11# Week	1,0	1,0	2,0	0,0
12# Week	1,0	1,0	2,0	1,0
13# Week	0,0	0,0	2,0	1,0
14# Week	0,0	1,0	2,0	0,0
15# Week	1,0	1,0	2,0	0,0
16# Week	1,0	1,0	2,0	0,0
17# Week	1,0	1,0	2,0	0,0
18# Week	1,0	1,0	1,0	0,0
19# Week	1,0	1,0	1,0	0,0
20# Week	1,0	1,0	1,0	0,0
21# Week	1,0	1,0	1,0	0,0
22# Week	1,0	1,0	1,0	0,0
23# Week	1,0	1,0	1,0	0,0
24# Week	1,0	1,0	2,0	0,0
25# Week	1,0	1,0	1,0	0,0
26# Week	0,0	1,0	1,0	1,0
<b>Total hours:</b>	<b>20,0</b>	<b>25,0</b>	<b>42,0</b>	<b>3,0</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.