28423 - General Pathological Anatomy

Información del Plan Docente

Academic Year	2017/18
Faculty / School	105 - Facultad de Veterinaria
Degree	451 - Degree in Veterinary Science
ECTS	8.0
Year	3
Semester	Annual
Subject Type	Compulsory
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

The learning process that is designed for this subject is based on:

a) Lectures: The topics tackled in this course will be presented, explained and discussed in 50 minute lectures where ppt presentations will be used for image support.

28423 - General Pathological Anatomy

b) Practical classes: Students enrolled in General Pathology undertake 4 types of compulsory internship:

1. Necropsies. Students should be able to perform systematic and complete opening of the animal carcass.

2. Demonstration of macroscopic lesions from slaughterhouse. Identify and describe the different types of injuries that can be found in livestock species slaughtered at the abattoir.

3. Histopathology. Microscopic changes that support the macroscopic study and contribute to a better understanding of the meaning of the lesions studied.

4. Seminars.

c) Tutorials: Consultations with a teacher to clarify issues related to the subject.

5.2.Learning tasks

The learning process that is designed for this subject is based on: Lectures, Practical

classes and Tutorials (see 5.3. Program)

5.3.Syllabus

Course syllabus

THEORY

Part I - Introduction.

01. Objectives: Guide of the subject

02. General concepts: General Pathology. Antemortem and postmortem lesions

Part II - Adaptation, damage and cell death.

03. Adaptation cell damage and cell death: Cellular adaptation. Causes of damage. Irreversible cell damage. Apoptosis and necrosis.

04. Adaptation cell damage and cell death: Chronic cellular adaptation: Atrophy. Hypertrophy. Hyperplasia. Metaplasia.

05. Pathological Deposits: Disturbances in water exchange and glycogen stores.

06. Pathological Deposits: Lipids.

28423 - General Pathological Anatomy

07. Pathological Deposits: Proteins.

08. Pathological Deposits: Pigments

09. Pathological Deposits: Minerals.

Part III - Circulatory disorders.

10 Active and passive hyperaemia. Oedema

11. Haemorrhage: Types. Consequences. Evolution.

12. Thrombosis and disseminated intravascular coagulation (DIC).

13. Embolism. Types and consequences.

14. Anaemia, ischemia and infarction: Concept. Types. Consequences and evolution.

15. Lymphatic circulation disorders

16. General disorders of blood circulation. Shock.

Part IV - Inflammation and repair.

17. Inflammation: General concepts. Causes. Terminology and classification

18. Acute inflammation.

19. Chemical mediators of inflammation.

20. Morphological patterns of acute inflammation (I): Serous. Fibrinous.

21. Morphological patterns of acute inflammation (II): Mucous. Purulent. Hemorrhagic.

22. Morphological patterns of acute inflammation (III): Mixed forms of inflammation. Evolution of acute inflammation.

23. Chronic inflammation. Morphological patterns of chronic inflammation.

24. Granulomatous and not granulomatous inflammation.

25. Resolution of inflammation: (I) Regeneration. (II) Repair or cicatrization.

28423 - General Pathological Anatomy

Part V - Disturbances development.

26. Aplasia, hypoplasia. Congenital malformations.

Part VI - Neoplasms.

27. Definition and general concepts. Characteristics of benign and malignant tumours.

28. Evolution of neoplasms

29. Stromal tumour and immune response.

30. Effects of tumours in the host.

31. Molecular basis of neoplasms.

32. Cancer Aetiology.

33. Epithelial and glandular tumours.

34. Connective tissue tumours.

35. Lymphohematopoietic, endocrine and nervous tumours.

Part VII - Immunopathology.

36. Immunodeficiency diseases

37. Hypersensitivity diseases

38. Autoimmunity diseases

Part IX - Introduction to systemic pathology.

39. Systemic pathology of the circulatory system

40. Systemic pathology of the respiratory tract

41. Systemic pathology of the digestive tract

42. Systemic pathology of the urinary system

43. Systemic pathology of the nervous system

44. Musculoskeletal systemic pathology

LABORATORY PRACTICAL CLASSES WITH THE FOLLOWING CONTENTS:

1) Necropsies

Students will conduct systematic and complete necropsies of mammals and birds. 10 hours per student is scheduled for this practice activity

* For access to the necropsy room it is essential to wear nitrile or latex gloves, high rubber boots, overalls and goggles. For security reasons access to anyone not suitably equipped it will be prevented.

2) Macroscopic lesions. 4 hours per student is scheduled for carrying out this activity.

3) Histopathology. 8 hours per student is scheduled for carrying out this activity.

4) Seminars. 8 hours per student is scheduled to perform this activity.

5.4.Course planning and calendar

http://veterinaria.unizar.es/horarios1.php?COD_TITULACION=6

5.5.Bibliography and recommended resources

[BB: Bibliografía básica / BC: Bibliografía complementaria]

- [BB] Color atlas of veterinary pathology : general morphological reactions of organs and tissues / edited by J.E. van Dijk, E. Gruys and J.M.V.M. Mouwen ; with contributions from I. van der Gaag ... [et al.] . 2nd ed., repr. Edinburgh [etc.] : Saunders Elsevier, 2008
- [BB] Kumar, Vinay. Patología estructural y funcional / Vinay Kumar, Abul K. Abbas, Jon C. Aster ; con ilustraciones de James A. Perkins ; [revisión científica, Félix Manzarbeitia Arambarri, Mª J. Fernández-Aceñero]. 9ª ed. Ámsterdam ; Barcelona ; Madrid [etc.] : Elsevier, D.L. 2015
- [BB] Tumors in domestic animals / edited by Donald J. Meuten . 4th ed Ames, Iowa : Iowa State Press, cop. 2002
- [BB] Zachary, James F.. Pathologic basis of veterinary disease / James F. Zachary, M. Donald McGavin . 5th ed. St. Louis, Missouri : Elsevier, cop. 2012
- [BC] Cheville, Norman F.. Introduction to veterinary pathology / Norman F. Cheville . 3rd ed. Ames, Iowa : Blackwell, cop. 2006
- [BC] Jones, Thomas Carlyle. Veterinary pathology / Thomas Carlyle Jones, Ronald Duncan Hunt, Norval William King . 6th ed. Baltimore [etc.] : Williams & Wilkins, cop. 1997
- [BC] Jubb, Kennedy and Palmer's Pathology of domestic animals / edited by M. Grant Maxie. 5th ed., repr. Edinburgh [etc.] : Saunders-Elsevier, 2008
- [BC] Slauson, David O.. Mechanisms of disease :a textbook of comparative general pathology / David O. Slauson, Barry J. Cooper. - 3rd ed. St. Louis : Mosby, cop. 2002

Listado de URL

- Atlas of General Pathology / University of Utah. School of Medicine

28423 - General Pathological Anatomy

[http://library.med.utah.edu/WebPath/GENERAL.html]
- Atlas of Pathology / Universidade de Lisboa. Facultade de Medicina Veterinaria [http://www.fmv.ulisboa.pt/atlas/ind_sistemas_ing.htm]
- Atlas of Pathology / University of Illinois. College of Medicine [https://www.med.illinois.edu/m2/pathology/PathAtlasf/]
- Dr. John King Necropsy images / Cornell University . College of Veterinary Medicine [https://secure.vet.cornell.edu/nst]
- Veterinary Pathology Image Database / Universitat Autonoma de Barcelona. Servei de Diagnòstic de Patologia Veterinària [http://www.veterinariavirtual.uab.es/archivopatologia/index.php]