



UNIVERSIDADE DE LISBOA
Faculdade de Medicina Veterinária

Histology and Embriology

Curricular Year: 1st

Duration: 1st Semester

Credits: 9 ECTS

Teachers: Mário Pinho (CCP e R); Ana Amaral.

Contact Hours: 112H Total.

56H Lectures; 56H Practical and laboratory teaching.

Learning objectives:

After attending the Curricular Unit, the student should be able to: acquire knowledge on the techniques for preparation of biological material for the microscopic study; describe the microscopic structure of animal tissues and organs; diagnose histological preparations from animal tissues and organs; correlate light microscope observations with ultrastructural features and explain their functional significance; the processes that characterize the first stages of the embryonic development of Vertebrates.

Program contents:

Introduction to Histology. Epithelial tissue. Connective tissue and extracellular matrix. Adipose tissue. Cartilage. Bone tissue and ossification. Blood. Muscle tissue. Nervous tissue. Lymphatic tissues and organs. Circulatory system. Digestive tract. Glands associated with the digestive tract. Respiratory system. Urinary system. Endocrine glands. Male and female genital systems. Skin and appendages. Introduction to embryology. Gametogenesis. Fertilization. Segmentation. Gastrulation. Neurulation. Implantation. Extraembryonic membranes. Placentation. Stem cells.

Bibliography:

Abrahamsohn P. Histologia Básica - Texto e Atlas, Junqueira & Carneiro, 13^a ed., 2017, Guanabara Koogan.

Azevedo, C. (Coord). Biologia Celular e Molecular, 5^a Ed., 2012, Lidel, Edições Técnicas.

Fletcher TF, Weber A. Veterinary Developmental Anatomy, 2013, (Ficheiro pdf).

Liebich H-G. Veterinary Histology of Domestic Mammals and Birds: Textbook and Colour Atlas, 5th ed., 2019, 5m Books LTD.

McGeady, TA, Quinn PJ, Fitzpatrick ES, Ryan MT, Kilroy D, Lonergan P. Veterinary Embryology, 2nd ed., 2017, Wiley-Blackwell.

Pawlina W. Ross Histologia Texto e Atlas, 8^a ed, 2021, Gen Guanabara Koogan.

Sadler TW. Langman, Embriologia Médica. 14^a ed., 2021, Guanabara Koogan

Assessment:

The assessment of the theoretical component will be accomplished through a final written exam with multiple-choice questions (MCQ).

The practical component will be evaluated through a practical exam where students must examine and identify three unknown histological slides and answer to questions posed by teachers.



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The student evaluation is also important to assess the efficiency of the teaching-learning methodologies, in compliance with the UC objectives, and to allow future adequate adjustments on the teaching methodologies and/or on the assessment of student's knowledge and skills.

The final classification (CF) is the arithmetic mean, rounded to the nearest whole number, of the classifications obtained in the theoretical (T) and practical (P) exams ($CF = 0.5 T + 0.5 P$).