

PHYSIOLOGY II

Curricular Year: 2nd

Semester: 4th

Compulsory

Credits: ECTS: 4.5

Teaching staff: Prof. Graça Ferreira-Dias (CCP, R), Prof. António Freitas Duarte, Prof. Maria de S. José Centeno

1. Time allocated (per student): 28 h **Theoreticals** + 28 h **Practicals**

2. Objectives:

Theoretical and practical learning of the different concepts and physiologic mechanisms for maintaining homeostasis in domestic animals. Development of the necessary skills for the students to understand, explain, and interpret the knowledge of veterinary physiology, and integrate it with animal production and pathology/clinics courses.

3. Programme:

Reproduction and Lactation: Development of gonads and gametes. Physiology of the oestrous cycle. Reproductive cycles and fertilization. Male reproductive physiology. Gestation and parturition. The mammary gland.

Renal Physiology: Glomerular filtration. Reabsorption of solutes. Water equilibrium. Acid-base homeostasis. Body temperature and mechanisms of thermoregulation.

Cardiovascular Physiology: Cardiovascular system structure and function. Electric activity of the heart and the electrocardiogram. Systemic and pulmonary circulation. Capillaries and gas exchange dynamics. Control of blood flow. Neural and hormonal control of blood pressure and blood volume.

4. Recommended Bibliography:

Klein J. G. 2013. Cunningham's Textbook of Veterinary Physiology. 5th Ed. W. B. Saunders Company. Philadelphia.

Koeppen B. M., Stanton B.A. 2010. Berne & Levy Principles of Physiology. 6th Ed. Mosby Elsevier, Philadelphia.

Laboratory handouts prepared by the teaching staff.

5. Evaluation:

Theoretical and practical knowledge will be evaluated by either "Traditional Evaluation" or "Continuous Evaluation" (optional to the students). "Traditional Evaluation" – knowledge will be assessed in the Final Exam, during the evaluation Break.

"Continuous Evaluation"- 30% of the final grade corresponds to the mean obtained on the Quizzes performed at the end of each lectures block (Reproductive, renal, and cardiovascular systems); 70% corresponds to the grade obtained on the Final Exam, during the evaluation Break.