Curricular Unit Form
(Document wating approval from Course Commission)

POLITÉCNICO DE PORTALEGRE

POLITÉCNICO DE PORTALEGRE
Escola Superior Agrária de Elvas

Updated On	2024/02/05
Curricular Year / Period	2023/24 / S2
Course	Equiniculture
Curricular Unit	Animal Physiology
Language(s) of Instruction	Português Inglês

ECTS/tempo de trabalho (horas)

ECTS	Total	Horas de contacto semestral								
		T	TP	PL	S	TC	E	O	OT	EC
6	160	0	80	0	0	0	0	0	0	0

T - Theoretical; TP - Theoretical and practical; LP - Laboratory Practice; S - Seminar; TG - Tutorial guidance; FW - Fieldwork; T - Training; ; EC - Clinical teaching; O* - Other hours typified as Clinical Training under the Directive 77/453/EEC of June 27, adapted by Directive 2005/36/EC.

Teacher in charge (GDPR consent)
[complete name, email]

Tânia Salomé Dias Lagoa / tanialagoa@ipportalegre.pt

Prerequisites
[Curricular Units that must precede and specific entry competences]

N/A

Learning outcomes
[Description of the overall and specific objectives] [Knowledge, skills and competences to be developed by students]

To accomplish scientific knowledge and technical methodologies, for the correct identification and understanding of the relations between the physiological structures and systems as well as the understanding of phenomena that occur in living organisms, their classification, sequence and meaning, assignment of each function to an organ and study the conditions that determine each function. To relate in an integrated manner the different functions of the cells and organs that compose the body, given that the animal's life depends on the integrated functioning of all systems, rather than isolated. The final goal is to help the student to have an integrated vision of the organic functionality. It is aimed that the student assumes critical conscience about the main subjects in the area of aimal physiology. Therefore, it is aimed that the student acquires the following skills: systematic comprehension of the different organic systems and their relations, namely in their cellular and molecular mechanisms; to collect and register complex scientific information; to develop competences that allow the recognition and evaluation of the health status of the animal; to develop the ability to perform research and increase the scientific knowledge; be able to critically analyze the scientific literature in the different areas of physiology.

Sustainable Developemnt Goals

Syllabus

Physiological systems. Endocrinology. Endocrine control. Hypophysis. Control of growth and development. Metabolism control. Reproduction control. Thermo-regulation. Warm-blooded and cold-blooded animals. Blood. Types of cells. Hematopoiesis. Cardiovascular system. Arterial and venous systems. Lymphatic system. Heart. Respiratory system. Respiratory cycles. Muscular tissue. Myofilaments mechanics. Contraction control by Ca2+. Regulatory proteins. Neuromuscular junctions. Acid-base balance. Balancing systems. Excretory system and renal physiology. Filtration pressions and mechanisms. Nephron. Osmotic balance. Digestive system functions. Endocrine and exocrine secretions. Absorption. Carbohidrates, proteins, lipids. Digestive tract motility. Nervous system. Cellular elements. Functional structure of the neuron. Different types of neurons. Basic functions. Arc reflex. Organization of the nervous system.

Teaching methodologies (including assessment)
[Specify the types of assessment and the weights and evaluation criteria]

1 - Teaching methodologies

Demonstration of the relation beween tissues, organs and systems. Continuous participation of the student in the clarification of scientific conceptual doubts.

2 - Period assessment

1 or 2 midterm tests. 50% first midterm + 50% second midterm. Minimal grade: 10 values

	3 - Examination assessement Written test with all the subjects lectured in the Curricular Unit - 100%. Minimal grade: 10 values
Bibliography	**1 - Main Bibliography** Teacher's manuals and presentations Akers, R. M., et al. (2013). Anatomy & Physiology of Domestic Animals. 2ª ed. Willey Blackwell Frandson, R. D., et al. (1996). Anatomia e fisiologia dos animais domésticos. 2ª ed. Guanabara Koogan. Bassert, J M.; Thomas, J A. (2014). Clinical Textbook for Veterinary Technicians. (8th edition). Elsevier Saunders. (capítulo: Introduction to anatomy and physiology) Reece, W. O. (1996). Fisiologia de Animais Domésticos. S. Paulo: Ed. Roca Lda Cunningham, J. G. (2003). Tratado de Fisiologia Veterinária. 3ª Ed. W. B. Saunders Company, Philadelphia Sacristan, A., G., Montijano, F., C., Palomino, L., F., C., Gallego, J., G., Silanes, M., D., M., L., Ruiz, G., S., (2003). Fisiología Veterinaria. 2ª Ed. McGraw-Hill. Interamericana. **2 - Complementary Bibliography** Biblioteca Online (b-On)
Special Situations [Students with special status]	**1 - Period assessment - Students with special status** 1 or 2 midterm tests. 50% first midterm + 50% second midterm. Minimal grade: 10 values **2 - Examination assessement - Students with special status** Written test with all the subjects lectured in the Curricular Unit - 100%. Minimal grade: 10 values