

Course Unit	Animal Physiology		Field of study	Biology and Biochemistry	
Bachelor in	Zootechnical Engineering		School	School of Agriculture	
Academic Year	2022/2023	Year of study	2	Level	1-2
Type	Semestral	Semester	1	ECTS credits	7.0
			Code	9129-312-2104-00-22	
Workload (hours)	189	Contact hours	T 45	TP -	PL 30
			TC -	S -	E -
			OT 20	O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Teresa Maria Montenegro Araújo A. Correia

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Understand the physiological function of the "animal machine" Get knowledge of homeostasis and endocrinology. See growth as a whole. Recognized factors that influence growth .
2. Understanding the influence of térmic stress in livestock production and implement action plans to minimize it.

Prerequisites

Before the course unit the learner is expected to be able to:
knowledge of informatic technology, biology, anatomy and morphology and biochemistry.

Course contents

The Programa will be: neuro-hormonal, cardiovascular, respiratory, and urinary systems. Phisiology of growth.

Course contents (extended version)

1. Neuroendocrine system
 - Organization and function of neuvous system. Central, autonomic and peripheral neuvous system.
 - Homeostasis. Recepctors. Hipothalamus, pituitary gland and epithyis. Function and main hormones.
 - Thyroid , paratyroids, adrenal and pancreas; function and hormonal regulation.
 - Ovarium and testis: function, hormonal regulation. Tissue hormones.
2. Cardiovascular system
 - Cardic cycle and electrocardiogram. Intrinsec and extrinsec regulation. Arterial pressure flow.
 - Circulation and peritheric regulation. Control of tissues blood flow
3. Respiratory system
 - The airways. Structure and function of lungs. gases transportation and it's exchanges.
 - Respiration on the birds. mecanic chemical and nervous control of respiration.
4. Urinary system
 - Structure and function of the kidney. The nephon as fuctional unit. Nervous and hormonal control
 - Mecanismos of urine production and concentrate. Urine composition and elimination.
5. Physiology of growth
 - The animal weigyh and developing curves. Coefficients of allometry. Precousious.
 - Chemical composition of tissues. Growth factores. Hammond scheme.
 - Effects of a food shortage. Compensatory gorwth
6. Pratical classes
 - Hormonal assay.
 - Anatomy and physiology of the heart and lung in different species.
 - physiological mesurament of several parameters in diferent species
 - Physical and chemical analysis of urine. Observation of urine sediment.
 - Evaluate tof animal growth

Recommended reading

1. Lornegan,M.S; Topel,G.D.; Marple, N.D.; 2018 The Science of Animal Growth and meet Technology, Academic press
2. Moys, C. , D. and Patricia, M. , 2016. Principals of Animal Physiology. 2rd edition. Pearson education limited. United Kingdom.
3. HILL, R. W. , 2013. Animal Physiology. Ed Sinaver Associates. United states.
4. HOSSNER, K. L. , 2005. Hormonal regulation of farm animal growth. CABI Publishing. UK.
5. CUNNINGHAM, J. G. , 2004. Tratado de fisiologia veterinária. Ed. Guanabara Koogan, Rio de Janeiro.

Teaching and learning methods

Theaching theoretical and pratical classes. The mentoring component of guidance to teachers will monitor and assist students in developing the various activities related to curriculum unit. Resources: audivisual, multimédia, computer, on line library, laboratory equipment, live animals in the ESAB and dead animals from the slautherhouse.

Assessment methods

1. Continuous assessment - (Regular, Student Worker) (Final)
 - Intermediate Written Test - 35% (Minimum score of 8, 0)
 - Final Written Exam - 35% (Minimum average score of 9, 5 (average of the two exams))
 - Practical Work - 30% (Minimum score of 9, 5)
2. Recourse - (Regular, Student Worker) (Final, Supplementary, Special)
 - Final Written Exam - 100% (Global Written exam (Theoretically and practical))

Language of instruction

1. Portuguese
2. Spanish

Electronic validation

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14-12-2022	16-12-2022	16-12-2022	19-12-2022