



Course Descriptor VTMD112 Veterinary Physiology

Proposed Academic Year	2021-22	Last Reviewed Academic Year	2020
Course Code	VTMD112	Course Title	Veterinary Physiology
Credit hours	3	Level of study	Undergraduate
College / Centre	CAHS	Department	Vet. Medicine
Co-requisites	VTMD192	Pre-requisites	BIOL101

1. COURSE OUTLINE

This course is a general introduction to animal physiology, including the normal function of the cells, tissues, and organs. The course will also cover the normal functions of the following systems: cardiovascular, digestive and respiratory systems.

2. AIMS

This course aims to introduce the students to the general concepts of animal physiology, the principles of homeostasis and of the homeostatic mechanisms. The students will have a thorough understanding about the functions of the organs of the body from macroscopic to molecular level. The ruminant digestive physiology (microbial & enzymatic) and avian digestion are also studied.

3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS

Learning Outcomes (Definitive)	Teaching and Learning methods (Indicative)	Assessment (Indicative)
Upon successful completion of this course, students will be able to:		
1. Demonstrate a good understanding with the principles and basic facts underlying animal physiology.	Lectures, tutorial, discussion	Assignment, Work sheets and written examinations.
2. Explain the concept of homeostasis, including set point, negative and positive feedback loops, and compensatory responses.	Lectures, tutorial, discussion	Quizzes, Work sheets and written examinations.
3. Acquire a detailed knowledge of organ-system physiology, with emphasis on cellular and molecular mechanisms in order to present a current view of physiological principles.	Lectures, tutorial, discussion	Quizzes, Work sheets and written examinations.
4. Explain the structure and functions of biological membranes including the role of membrane proteins in catalysis, recognition, and transport.	Lectures, tutorial, discussion	Quizzes, Work sheets and written examinations.



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4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Assignment	20%
Quizzes	20%
Mid-term Examination	20%
Final Examination	40%
TOTAL	100%

5. ACHIEVING A PASS

Students will achieve **3** credit hours for this course by passing **ALL** of the course assessments [*quizzes, Midterm exam and final examination*] and achieving a **minimum overall score of 50%**

NB *Ensure that ALL learning outcomes are taken into account

6. COURSE CONTENT (Indicative)

Introduction	
Homeostasis: Body fluid – Acid / base balance – Body temperature	
Cell Physiology: Cell cycle - Apoptosis - Cell membrane - Cell Receptors	
Digestive system: Introduction - Prehension	
Chemical / enzymatic digestion (Monogastric animals): Salivary glands - Stomach	
Intestinal digestion and absorption	
Microbial digestion in Monogastric animals - Ruminant digestion	
Respiratory system: Introduction - Mechanism of respiration - Regulation of respiration	
Cardiovascular system: Introduction - Circulation - Cardiac muscle	
Heartbeat - Blood pressure - Abnormalities	
TOTAL HOURS	48
Plus RECOMMENDED INDEPENDENT STUDY HOURS	27
TOTAL COURSE HOURS	75

7. RECOMMENDED REFERENCES

Core text/s:

- William O. Reece (Editor): Dukes` Physiology of Domestic Animals. 13th Edition.
- Bradley G. Klein (Editor): Cunningham's Textbook of Veterinary Physiology. 5th Edition.
- A.C. Guyton, J.E. Hall (Editors): Medical Physiology, 10th Ed. W.B. Saunders Company, USA.

Library + online resources:

Open Educational Resources: