Course Descriptor
VTMD334 Veterinary Toxicology

Proposed Academic Year	2021 - 22	**Last Reviewed Academic Year**	
Course Code	VTMD334	**Course Title**	Veterinary Toxicology
Credit hours	3	**Level of study**	Undergraduate
College / Centre	CAHS	**Department**	VTMD
Co-requisites		**Pre-requisites**	VTMD313

1. COURSE OUTLINE

This course provides the students on the latest approaches for diagnosis in chemical and plant poisoning cases in animals. The course is updated to include the newest developments which include new toxins, methods and regions that is needed for veterinary students. The course covers significant aspects of veterinary toxicology, the basic principles and key concepts with clinical applications.

2. AIMS

This course aims to provide students a good background of toxicology in veterinary medicine. Students will be able to identify approaches to the treatment of suspected animals that are intoxicated or poisoned. Students will be able to identity and assess common poisons and clinical signs of poisoning in animals.

3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS

Learning Outcomes ***(Definitive)*** Upon successful completion of this course, students will be able to**:**	**Teaching and Learning methods** ***(Indicative)***	**Assessment** ***(Indicative)***
1. Assess the general approaches to management of animals with either suspected or known poisoning.	Class lectures, power point presentations, discussions, problem based learning through complimentary lab. Sessions	*Assignment; quizzes /mid-term exam/ Final exam*
2. Identify common poisons of organic, inorganic and plant origin and outline the clinical signs of poisoning in animals.	Class lectures, power point presentations, discussions, problem based learning through complimentary lab. Sessions	*Take-home assignment; quizzes /mid-term exam/ Final exam*
3. Explain the approaches for the diagnosis and treatment of poisoning with individual agents.	Class lectures, power point presentations, discussions, problem based learning through complimentary lab. Sessions	*Take-home assignment; quizzes /mid-term exam/ Final exam*
4. Appreciate the importance of toxicology in the field of veterinary medicine.	Class lectures, power point presentations, discussions, problem based learning through complimentary lab. Sessions	*Take-home assignment; quizzes /mid-term exam/ Final exam*

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, Mid-term, Final examinations*]* and achieving a **minimum overall score of 50%**

NB *Ensure that ALL learning outcomes are taken into account

6. COURSE CONTENT (Indicative)

General:
1. Concepts in veterinary toxicology
2. Toxicokinetics
3. Factors affecting chemical toxicity
4. Toxicological testing: in vivo and in vitro models
5. Epidemiology of animal poisonings in the United States
6. Epidemiology of animal poisonings in Europe
7. Epidemiology of animal poisonings in Asia
8. Chemicals of terrorism
9. Regulatory considerations in veterinary toxicology
10. Regulatory aspects for the drugs and chemicals used in food-producing animals in the Oman
11. Regulatory aspects for the drugs and chemicals used in Oman
12. Statistics in veterinary toxicology
13. Computational modeling in veterinary toxicology
14. Toxicology and the law

Organ Toxicity:
15. Nervous system toxicity
16. Respiratory toxicity
17. Cardiovascular toxicity
18. Liver toxicity
19. Renal toxicity
20. Reproductive toxicity and endocrine disruption
21. Placental toxicity
22. Dermal toxicity
23. Blood and bone marrow toxicity
24. Immunotoxicity

Nanoparticles, Radiation and Carcinogens:
25. Toxicity of nanomaterials
26. Ionizing radiation and radioactive materials in health and disease
27. Carcinogenesis: mechanisms and models

Drugs of Use and Abuse: 28. Toxicity of over-the-counter drugs 29. Toxicity of drugs of abuse	
TOTAL HOURS	**45**
Plus **RECOMMENDED INDEPENDENT STUDY HOURS**	**15**
TOTAL COURSE HOURS	**60**

7. RECOMMENDED REFERENCES

Core text/s:

Ramesh Gupta (editor), Veterinary Toxicology , 3rd Edition, Elsevier Publishing

Library + online resources:

Open Educational Resources: