



Course Descriptor
VTMD513 Veterinary Epidemiology & Biostatistics

Proposed Academic Year	2021 – 22	Last Reviewed Academic Year	
Course Code	VTMD513	Course Title	Veterinary Epidemiology & Biostatistics
Credit hours	3	Level of study	Undergraduate
College / Centre	CAHS	Department	VET MED
Co-requisites		Pre-requisites	

1. COURSE OUTLINE

The course includes topics on rapid movement of people and animals, disease can spread more quickly than before and is harder to control than ever. The course will provide students with an understanding of the conceptual basis of epidemiology and with training in essential methodological skills for the design, conduct, analysis, interpretation and communication of epidemiological studies, surveillance and disease control in animal and human populations.

2. AIMS

The course aims to introduce students to statistical methods for analysis of cohort, correlated and spatial data. It also aims to develop students' applied skills in risk assessment and disease control in animal populations.

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 profound understanding of epidemiology	Lectures, Presentations	<i>Assignment, Quizzes, Exams</i>
2. Apply epidemiological principles to surveillance and infection and disease control within animal populations	Lectures, Presentations	<i>Assignment, Quizzes, Exams</i>
3. Enter and manage computerized epidemiological data and carry out appropriate statistical analyses.	Lectures, Presentations	<i>Assignment, Quizzes, Exams</i>
4. Assess the results of epidemiological studies including critical appraisal of study question, study design, methods and	Lectures, Presentations	<i>Assignment, Quizzes, Exams</i>



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conduct, statistical analysis and interpretation		
Demonstrate a profound understanding of epidemiology	Lectures, Presentations	<i>Assignment, Quizzes, Exams</i>

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 [*alternatively, list the compulsory pass assessments**] and achieving a **minimum overall score of 50%**

NB *Ensure that ALL learning outcomes are taken into account

6. COURSE CONTENT (Indicative)

1. The development of veterinary medicine
2. The scope of epidemiology
3. Causality
4. Describing disease occurrence
5. Determinants of disease
6. The transmission and maintenance of infection
7. The ecology of disease
8. Patterns of disease
9. Comparative epidemiology
10. The nature of data
11. Data collection and management
12. Presenting numerical data
13. Surveys
14. Demonstrating association
15. Observational studies
16. Design considerations for observational studies
17. Clinical trials
18. Validity in epidemiological studies
19. Systematic reviews
20. Diagnostic testing
21. Surveillanc



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- 22. Statistical modelling
- 23. Mathematical modelling
- 24. Risk analysis
- 25. Economics and veterinary epidemiology
- 26. Health schemes
- 27. The control and eradication of disease

TOTAL HOURS	45
Plus RECOMMENDED INDEPENDENT STUDY HOURS	15
TOTAL COURSE HOURS	60

7. RECOMMENDED REFERENCES

Core text/s:

Veterinary Epidemiology 3rd Edition, Michael Thrusfield, ISBN-13: 978-1405156271.
Statistics for Veterinary and Animal Science, 3rd Edition, Aviva Petrie, Paul Watson.

Library + online resources:

Practical Clinical Epidemiology for the Veterinarian, Aurora Villarroel, ISBN: 978-1-118-96512-2

Open Educational Resources: