



Course Descriptor VTMD322 Veterinary Microbiology

Proposed Academic Year	2021 - 22	Last Reviewed Academic Year	
Course Code	VTMD322	Course Title	Veterinary Microbiology
Credit hours	3	Level of study	Undergraduate
College / Centre	CAHS	Department	VTMD
Co-requisites	VTMD392	Pre-requisites	BIOL201

1. COURSE OUTLINE

The course will cover all aspects of bacteriology, mycology, and virology of veterinary importance. The course will cover different aspects of microbial classification, identification & characterization based upon their growth character, biochemical tests and colony morphology.

2. AIMS

This course aims to equip the students with the knowledge and understanding of the classification, identification and characterization of various microbes including bacteria, fungi and viruses besides developing skills in carrying out morphological and biochemical analysis for identification of various microorganisms.

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. Classify various microorganisms which influence domestic animals.	Power point presentations, lab work, discussion	Work sheets and written examinations
2. Describe the morphological characteristics of different kinds of microbes.	Power point presentations, lab work, discussion	Work sheets and written examinations
3. Develop skills in culturing various kinds of microbes	Power point presentations, lab work, discussion	Work sheets and written examinations
4. Identify the characteristics of specific kinds of microbes.	Power point presentations, lab work, discussion	Work sheets and written examinations

4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Assignment	20%
Quizzes	20%



Course Descriptor VTMD322 Veterinary Microbiology

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)



Course Descriptor VTMD322 Veterinary Microbiology

BACTERIA AND FUNGI:

- Family Enterobacteriaceae.
- Enterobacteriaceae: Escherichia.
- Enterobacteriaceae: Salmonella.
- Enterobacteriaceae: Yersinia.
- Enterobacteriaceae: Shigella.
- Pasteurellaceae: Avibacterium, Bibersteinia, Mannheimia, and Pasteurella.
- Pasteurellaceae: Actinobacillus.
- Pasteurellaceae: Haemophilus and Histophilus.
- Bordetella.
- Brucella.
- Burkholderia mallei and Burkholderiapseudomallei.
- Francisellatularensis.
- Moraxella.
- Pseudomonas.
- Taylorella.
- Spiral-Curved Organisms I: Borrelia.
- Spiral-Curved Organisms II: Brachyspira (Serpulina) and Lawsonia.
- Spiral-Curved Organisms III: Campylobacter and Arcobacter.
- Spiral-Curved Organisms IV: Helicobacter.
- Spiral-Curved Organisms V: Leptospira.
- Staphylococcus.
- Streptococcus and Enterococcus.
- Arcanobacterium.
- Bacillus.
- Corynebacterium.
- Erysipelothrix.
- Listeria.
- Rhodococcus.
- Gram-Negative, Non-spore-Forming Anaerobes.
- Clostridium.
- Filamentous Bacteria: Actinomyces, Nocardia, Dermatophilus, and Streptobacillus.
- Mycobacterium.
- Chlamydiaceae.
- Mollicutes.
- Rickettsiaceae and Coxiellaceae: Rickettsia and Coxiella.
- Anaplasmataceae: Ehrlichia and Neorickettsia.
- Anaplasmataceae: Anaplasma.
- Bartonellaceae.



Course Descriptor
VTMD322 Veterinary Microbiology

Yeasts—Cryptococcus, Malassezia, and Candida.

- Dermatophytes.
- Agents of Subcutaneous Mycoses.
- Agents of Systemic Mycoses.

VIRUSES:

- Parvoviridae and Circoviridae.
- Asfarviridae and Iridoviridae.
- Papillomaviridae and Polyomaviridae.
- Adenoviridae.
- Herpesviridae.
- Poxviridae.
- Picornaviridae.
- Caliciviridae.
- Togaviridae and Flaviviridae.
- Orthomyxoviridae.
- Bunyavirida.
- Paramyxoviridae, Filoviridae, and Bornaviridae.
- Rhabdoviridae.
- Coronaviridae.
- Arteriviridae and Roniviridae.
- Reoviridae.
- Birnaviridae.
- Retroviridae.
- Transmissible Spongiform Encephalopathies

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

7. RECOMMENDED REFERENCES

Core text/s:

D. Scott McVey (Editor): Veterinary Microbiology, 3rd Edition - Wiley publication. (2013).
 -P. J. Quinn, B. K. Markey, M. E. Carter, W. J. Donnelly, F. C. Leonar (Editors): Veterinary Microbiology and Microbial Disease, 2nd Edition, Wiley. USA. (2011)
 - N. Maclachlan Edward J Dubovi (Editors): Fenner's Veterinary Virology, 5th Edition. Academic Press. (2016)

Library + online resources:

Open Educational Resources:



Course Descriptor
VTMD322 Veterinary Microbiology
