

**UNIVERSITY OF GONDAR**  
**COLLEGE OF VETERINARY MEDICINE AND ANIMAL SCIENCES**  
**PARACLINICAL DEPARTMENT**

**Program:** Doctor of Veterinary Medicine (DVM).

**Module Title:** Animal Pathogens and Host defense; Module Code: Vetm-M2081 ; Module No.:8

**Course Title:** Veterinary Microbiology II; Course code: Vetm2084; ECTS: 5

**Instructors name and contact information:**

Dr. Destaw Asfaw (DVM, MSc in Vet Microbiology, Assit. Prof.); 35% - Course coordinator.

Email: asfawdestaw@gmail.com

Dr. Ambaye Kenubih (DVM, MSc in Vet Microbiology, Assit. Prof.); 35%.

Email: ambayeken@yahoo.com

Dr. Solomon Lulie (DVM, MSc in Vet Microbiology Assit. Prof.); 30%.

Email: solomonlulie@gmail.com

**Office Hours:** Available at work hour.

**Course Description:**

Veterinary Microbiology II deals with the general and detailed properties of specific Virus families including DNA viruses, RNA viruses that have veterinary importance.

**Aims are targeted to:**

- Introduce students to the various viruses with their respective diseases in livestock and human.
- Discuss the different diseases in animals and human beings caused by prions.
- Prevail the effect of viral disease on animals and to give an ideas how to control them.
- Enable students in differentiating viral zoonotic diseases

**Course objectives:** On successful completion of this module, the students will be able to:

- Describe viral family grouped under DNA & RNA viruses and about prions
- Discuss animal diseases and understand the disease processes which are caused by DNA, RNA Virus and Prions
- Obtain comprehensive knowledge of major viral diseases of domestic and wildlife animals

- Select, collect, transport and preserve samples so as to diagnose and treat specific animal diseases of viral origin
- Understand the effect of the viral disease on animals and the means to control it.
- Identify the common viral diseases communicable to human.

**Pre-requisite:** Veterinary Microbiology I; **Mode of delivery:** Semester based/Parallel; **Status of the course:** Core

**Assessment methods:** Students will be assessed based on:

- i. Continuous assessment 50%: Tests, Quizzes, Evaluation of assignment papers, Evaluation of laboratory class, visit reports, class attendance, class room presentation and discussions.
- ii. Final exam 50%.

## **COURSE SCHEDULE**

### **I. General Virology.....Dr. Destaw A. (Week 1-5)**

1. Historical Development and Origin of Virus
2. Viral Taxonomy and Nomenclature
3. General characteristics and morphology/structure of virus
4. Chemical Composition and Stability of Virus
5. Viral Replication
6. Viral Pathogenesis and Virulence
7. Diagnosis of Viral Diseases
8. Propagation and Cellular Interaction of Virus
9. Antiviral Chemotherapy

### **II. Systematic Virology.....Weeks (6-16).**

#### **1. DNA Virus Family.....Dr. Solomon L. (Weeks 6-9).**

- 1.1. Poxviridae
- 1.2. Adenoviridae
- 1.3. Herpesviridae
- 1.4. Parvoviridae

1.5. Papillomaviridae

1.6. polyomaviruses

1.7. Asfarviridae

1.8. Circoviridae

1.9. Newly emerging DNA viruses?

**2. RNA Virus Family.....Dr. Ambaye K. (Weeks 10-14)**

2.1. Arteriviridae

2.2. Astroviridae

2.3. Birnaviridae

2.4. Bornaviridae

2.5. Bunyaviridae

2.6. Bunyaviridae

2.7. Caliciviridae

2.8. Coronaviridae

2.9. Flaviviridae

2.10. Orthomyxoviridae

2.11. Paramyxoviridae

2.12. Picornaviridae

2.13. Rabdoviridae

2.14. Reoviridae

2.15. Retroviridae

2.16. Togaviridae

2.17. Togaviridae

2.18. Newly emerging RNA viruses?

**3. Unconventional infectious agents: Prions.....Dr. Ambaye K. (Week 15)**

3.1. Disease in animals and human beings caused by prions.

**4. Final Exam (Week 16)**

**References**

1. Bernard N. Fields., Peter M., Howley, Diane E., Griffin, Robert A., Lamb, Malcolm A., Martin., Stephen E., Straus, and David M, Knipe, (2001): Fields Virology 4th Edition.

2. Alan Cann L.,K. (2011). Principles of Molecular Virology, Fifth Edition

3. Fenner's Veterinary Virolog- 4th Edition, 2011

4. Acheson, N. H./ Nicholas H. Acheson: Fundamentals of molecular virology -2nd ed., 2011

5. Frederick A. Murphy: Veterinary Virology- 3rd edition

6. Microbiology: an introduction / Gerard J. Tortora, Berdell R. Funke, Christine L. Case. 10th ed.p. cm

7. Microbiology-Text Books. I. Funke, Berdell R. II. Case, Christine L., 1948- III . Title.  
[DNLM: I. Microbiology. QW 4 T712m 2010.