

**UNIVERSITY OF GONDAR,**  
**COLLAGE OF VETERINARY MEDICINE AND ANIMAL SCIENCES**  
**DEPARTMENT OF VETERINRAY EPIDEMIOLOGY AND PUBLIC HEALTH (VEPH)**

Course Outline for

<b>Course title</b>	<b>Veterinary Preventive Medicine</b>
<b>Course code</b>	<b>Vetm 5233</b>
<b>Course Credit</b>	<b>5 ECTS / 3CHr ( 2.5 + 0.5)</b>

**Module 23**

<b>Department</b>	<b>Veterinary Epidemiology and Public Health</b>
<b>Program</b>	Doctor of Veterinary Medicine (DVM)
<b>Module Title</b>	Veterinary epidemiology and Animal Health economics
<b>Module code</b>	Vetm-M 5231
<b>Module Coordinator</b>	<b>Dr Seleshe Nigatu</b>
<b>Course title</b>	<b>Veterinary Preventive Medicine</b>
<b>Course code</b>	<b>Vetm 5233</b>
<b>Instructor name &amp; contact information</b>	<ol style="list-style-type: none"> <li>1. D Wassie Molla</li> <li>2. Dr Tsegaw Fentie</li> <li>3. Dr Hayleyesus</li> <li>4. Dr. Seleshe Nigatu</li> </ol> <p style="text-align: center;">Office phone: +251-588119072; Office Hours 8:00 am- 5:00 pm</p>
<b>Course information</b>	Year: V Semester: II
<b>Course Credit</b>	<b>5 ECTS / 3CHr ( 2.5 cr Lecture and 0.5 Cr Practical )</b>
<b>Course description</b>	<p>Veterinary Preventive medicine deals with the epidemiology of major epizootic diseases particularly those caused by bacteria, fungi, and viruses and have a significant impact on the Ethiopian economy. Emphasis is given to the distribution within the country, diagnosis and application of appropriate control and prevention methods on epidemic and endemic diseases. This course, hence, deals with host defense mechanisms, immunity, <b>Trans Boundary and emerging animal Disease</b>, vector borne diseases, soil borne diseases, and contact infections, epidemiology of diseases in the pastoral, small holder, ranching, feedlot, and intensive dairy farm production systems.</p> <p>Finally the course deals on basics on <b>Inspection and Certification procidures</b>.</p>
<b>Course objectives</b>	<p>By the end of this course, students will be able to:</p> <ul style="list-style-type: none"> <li>• Know the epidemiological distribution of the most important livestock diseases in the tropics including their appropriate preventive and control methods</li> <li>• Introduce the concept of tailoring animal health schemes into the existing animal husbandry practices, with major emphasis on the genetic diversity of animals and their adaptation to local environmental and management conditions.</li> </ul>
<b>Prerequisite</b>	Veterinary Epidemiology
<b>Status of the course</b>	Core
<b>Expectations</b>	<p><b>Preparation &amp; participation:</b>  All students will attend classes regularly;  Students shall actively participate in asking and answering questions in the teaching-learning process;  Students will do their assignments and submit in time;  Establishing fair relationship between students and the instructor;  Students will be satisfied in their assessment results;  Students will be open to discuss any issues related to the course assessment methods;  Students will appreciate the subject and give constructive comments on weak sides;  Students will gain adequate knowledge in the subject;  Course instructors are also expected to make the necessary preparations in due of time  Instructors shall give enough time for questions &amp; answers (class discussions).</p> <p><b>Material availability:</b></p>

	Reference materials and teaching aids are expected to be available throughout the course delivery.				
<b>Learning Teaching methods</b>	Lecture Group discussion Presentation Reading and written assignment <b>Field visit</b>				
<b>Assessment Methods</b>	<b>Continuous assessment 50%</b> <ul style="list-style-type: none"> <li>• Quizzes</li> <li>• Tests</li> <li>• Written Assignment</li> <li>• Presentation</li> <li>• <b>Field visit report</b></li> </ul> <b>Final Exam 50%</b>				
<b>Students' work load</b>	ECTS	Lecture	Lab/ practical	Home study	Total
	5	40	24	71	135
<b>Policy</b>	As per guidelines of the University Senate Legislation.				

### Schedule

Chapter	Topic	Instructor	Weeks	Practical Activity	Continues assesment plan
<b>I.</b>	<b>Host Defense Mechanisms against Infection and anti Epizootic measures /Disease controle principles</b>				
<b>1</b>	<b>Host Defense Mechanisms against Infection –</b> <ul style="list-style-type: none"> <li>• Generalities</li> <li>• Resistance <ul style="list-style-type: none"> <li>✓ Absolute Resistance</li> <li>✓ Relative Resistance <ul style="list-style-type: none"> <li>○ Passive resistance</li> <li>○ Active resistance <ul style="list-style-type: none"> <li>▪ Cellular resistance factors</li> <li>▪ Humoral resistance factors <ul style="list-style-type: none"> <li>✚ Lysozyme</li> <li>✚ Complement system</li> <li>✚ Interferon system</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> <li>• Immunity <ul style="list-style-type: none"> <li>✓ Antigens</li> <li>✓ Antibodies</li> <li>✓ Forms of immunity <ul style="list-style-type: none"> <li>▪ Passive immunity</li> <li>▪ Active immunity</li> <li>▪ Sterile immunity</li> <li>▪ Unsterile immunity</li> </ul> </li> </ul> </li> </ul>	<b>Dr Seleshe</b>	1 -3	<b>Practical-1:</b> Demonstration of Immunological/serological tests:- <ul style="list-style-type: none"> <li>• Agglutination and precipitation test</li> <li>• AGD,</li> <li>• Rapid TB tests ( LIO, LAM);</li> <li>• ELISA?</li> </ul>	<b>Test (10%)</b>
<b>II</b>	<b>Transboundary Animal Diseases ( TAD), Emerging and Re Emerging Animal Diseases</b>				
<b>2</b>	<b>Animal disease complex in the tropics – Vector-Borne diseases</b> Description : <i>The current global distribution of TADs</i> Specific diseases <ul style="list-style-type: none"> <li>• Rift valley fever</li> <li>• Rabies</li> <li>• African horse sickness</li> </ul>	<b>Dr Hayleyesus</b>	4, 5	<b>Practical-II:</b> Collection of locally available arthropod vectors, thier classification, and associeting with animal diseases .	

Chapter	Topic	Instructor	Weeks	Practical Activity	Continues assessment plan
3	<b>Soil-Borne diseases</b> Epidemiological characteristics Specific diseases <ul style="list-style-type: none"> <li>• Anthrax</li> <li>• Clostridial diseases               <ul style="list-style-type: none"> <li>○ Black leg</li> <li>○ Botulism</li> <li>○ Tetanus</li> <li>○ Enterotoxaemia</li> </ul> </li> </ul>	Dr Hayleyesus	6 & 7	<b>Practical-III:</b> <ul style="list-style-type: none"> <li>• Demonstration of soil borne animal disease vaccines and their management for use.</li> <li>• Vaccination procedures and techniques Eg : Against Anthrax, Blackleg...</li> </ul>	<b>Assignment on soil mapping and its relation to soil borne diseases</b>  <b>10%</b>
4	<b>Contact infections</b> Characteristic Features Specific Diseases <ul style="list-style-type: none"> <li>• Mycoplasmoses</li> <li>• Tuberculosis</li> <li>• Brucellosis</li> <li>• Haemorrhagic Septicaemia,</li> <li>• Foot and Mouth Disease</li> <li>• Peste Des Petits Ruminants</li> </ul>	Dr Hayleyesus	8, 9, 10	<b>Practical IV :</b> <ul style="list-style-type: none"> <li>• Participate in the Anti-rabies Vaccination program.</li> </ul>	<b>Test 20 %</b>
5	<b>Production Systems and their Relevance to Animal Health</b> Pastoral Production System Nomadism <ul style="list-style-type: none"> <li>• Characteristic Features of Nomadic Herd Management Systems</li> <li>• Animals Health Schemes</li> </ul> Small-holder Livestock Production Systems <ul style="list-style-type: none"> <li>• Characteristic Features</li> <li>• Animal Health Schemes</li> </ul> Ranching <ul style="list-style-type: none"> <li>• Organization</li> <li>• Animal Health Schemes</li> </ul>	Dr Wassie	11	<b>Practical V :</b> Field visit to demonstrate <b>smallholder farming system</b> & its relevance to animal diseases epidemiology	
6	<b>The Feedlot</b> Descriptions <ul style="list-style-type: none"> <li>• Epidemiology of Diseases in Feedlot Cattle</li> </ul> Specific Disease Conditions <ul style="list-style-type: none"> <li>• Metabolic Diseases</li> <li>• Infectious Diseases</li> <li>• Animal Health scheme in the Feedlot</li> </ul>	Dr Wassie	12	<b>Practical VI :</b> Field visit to demonstrate <b>feedlot farming system</b> & its relevance to animal diseases epidemiology	
7	<b>The Intensive Dairy Farming</b> Description of the Production System Trends in Dairy Farming Health and Production <ul style="list-style-type: none"> <li>• Diseases of Intensification</li> <li>• Mastitis</li> </ul> Dairy Farming in the Tropics Animal Health Schemes Health and Production Management of Dairy Calves Common causes of Calf Morbidity and Mortality <ul style="list-style-type: none"> <li>• Acute Infectious Diarrhoea</li> <li>• Enzootic Pneumonia</li> <li>• Health Management of Dairy Calves</li> </ul>	Dr Wassie	13, 14, 15	<b>Practical VII :</b> Field visit to demonstrate <b>Dairy farming system</b> & its relevance to animal diseases epidemiology	<b>Field visit report 10 %</b>
8	<b>Inspection and Certification procedures</b>				
	<ul style="list-style-type: none"> <li>• Define what Inspection is and what Certification is</li> <li>• processes used to assess the health status of animals and safety of animal products for the purpose of transport / export;</li> <li>• the process of ante and post mortem risk-based inspection of animals, and of the inspection of animal products;</li> <li>• the drafting of health certificates</li> </ul>	Dr Tsegaw	16	<b>Practical VII :</b> Field visit to Animal Quarantine center, quarantine service and Certification Eg: Azezo Animal quarantine center	
Module and Course Evaluation	Peer review, feedback from students, questionnaire-based opinion survey and assessment results		16		

Chapter	Topic	Instructor	Weeks	Practical Activity	Continues assesment plan
References	<ul style="list-style-type: none"> <li>• Radostits, O.M., D.C. Blood and C.C. Gay. 1994. Veterinary Medicine. 8th Ed. Bailliere Tindall, London.</li> <li>• Large Animal Internal Medicine, (Diseases of Horses, Cattle, Sheep, and Goats). 2nd Ed. The C.V. Mosby Co. Philadelphia, USA.</li> <li>• Hungerford. T. G. 1991. Hungerford's Disease of Livestock. 9th Ed, McGraw-Hill Book Company. Sydney.</li> <li>• Howard, J.L. 1999. Current Veterinary Therapy, Food Animal Practice, W. B. Finders Publishers, USA.</li> <li>• Aiello.S.E.1998. The Merck Veterinary Manual. 8th ed. Merck and CO., INC., Whitehouse Station, N.J., U.S.A</li> </ul>				