

## Specification for veterinary epidemiology course

2025/2026

### 1-Basic information

Course title	veterinary epidemiology							
Course code	L4B-407							
Department/s participating in delivery of the course	veterinary hygiene and management							
Number of units/credit hours	Theoretical	1	Practical	0	Other	0	Total	1
Course Type	√ <b>Obligatory</b> <b>Elective</b>							
Academic level at which the course is taught	4 <sup>th</sup> level							
Semester	Fall							
Academic program	Bachelor of Veterinary Medicine (BVM)							
Faculty	Veterinary medicine							
University	Benha University							
Name of course coordinator	Prof. Dr. Yasser Metawea							
Course Specification Approval Date	Department council on 8/7/2024							
Course Specification Approval (Attach the decision/minutes of the department /committee/council ....)	Faculty council on 27/8/2025							

### 2-Course overview

- **Course contents written in the program bylaw:**

Definitions; uses; types components; patterns; disease determinants; transmission and maintenance of disease; sources and reservoir infection; source of data; data storage and retrieval; measures of disease occurrence; general principles for the control of infectious diseases.

### 3- Course Learning Outcomes CLOs

(NARS) outcomes		Course outcomes	
Code	Text	Code	Text

<b>Knowledge and understanding</b>	<b>2.9</b>	General and specific epidemiological pattern of animal population diseases and the most effective immunization protocols	<b>a1</b>	Describe and illustrate different uses of epidemiology
			<b>a2</b>	Mention the Components of epidemiology
			<b>a3</b>	List and explain Factors influence of the cause of disease and Factors affecting patterns of infection
			<b>a4</b>	Mention Epidemiological links
			<b>a5</b>	Define types of tests applied on animals to eliminate latent infected ones or carriers
			<b>a6</b>	Identify general and specific epidemiology patterns of animal population diseases and the most effective immunization protocols.
	<b>2.12</b>	The accurate measurements of veterinary quarantine	<b>a7</b>	Describe the accurate measurement of veterinary quarantine
<b>Intellectual skills</b>	<b>4.4</b>	Proficiently secure diagnostic reasoning, develop problem lists and differential diagnosis in order to deductively and critically reach the most appropriate solution (s) and management of the addressed clinical problems	<b>b1</b>	Choose the appropriate system of housing and design according to type of production and environmental requirements
			<b>b2</b>	Plan a general layout of commercial poultry farms
			<b>b3</b>	Identify principles of biosecurity
			<b>b4</b>	Compare among different types of poultry housing system and choose the suitable type for different poultry premises.
	<b>4.5</b>	Remain committed to life – long learning and updating/ upgrading their biochemical sense and clinical skills.	<b>b1</b>	Choose the appropriate system of housing and design according to type of production and environmental requirements
<b>Professional and practical skills</b>	<b>3.3</b>	Obtain the history of the case whether it is of an Individual animal or a group of animals.	<b>c1</b>	obtain the history of the case whether it is of an individual animal or a group of animals
	<b>3.11</b>	Utilize appropriate safety procedures to protect clients and co-workers.	<b>c2</b>	Utilize appropriate safety procedures to protect clients and co-workers.
	<b>3.12</b>	Correctly deal with procedures related to food hygiene, public health issues, notifiable diseases and disposal of animal wastes	<b>c3</b>	Correctly deal with procedure related to public health issues, notifiable diseases and disposal of carcass.

	<b>3.13</b>	Minimize the risk of contamination, cross infection and predisposing factors of diseases.	<b>c4</b>	minimize the risk of contamination, cross infection and predisposing factors
<b>General and transferable skills</b>	<b>5.1</b>	Work under pressure and / or contradictory conditions	<b>d1</b>	Work under pressure during determination of epidemiology.
	<b>5.2</b>	Function in a multidisciplinary team	<b>d2</b>	Work in a team during the determination of epidemiology.
	<b>5.3</b>	Communicate appropriately verbally and nonverbally	<b>d3</b>	Communicate & Cooperate with other colleagues for determination of epidemiology.
	<b>5.5</b>	Search for new information and technology as well as adopt life-long self-learning ethics	<b>d4</b>	Search for new information in the field of epidemiology.
	<b>5.6</b>	Utilize computer and internet skills	<b>d5</b>	Utilize computer and internet skills in the field of epidemiology.

#### 4- Teaching and learning methods

<b>Lectures</b>	√	<b>Discussion &amp; seminar (self-learning)</b>	√	<b>Practical</b>	√
<b>Presentation &amp; movies</b>	√	<b>Problem solving</b>	√	<b>Brain storming</b>	√
<b>Others</b>					

#### - Course Schedule:

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/.....)	Training (Practical/Clinical/.....)	Self-learning (Tasks/Assignments / Projects/...)	Other (to be determined)
<b>W1</b>	Common terms, Epidemiological investigation and etiological agent	<b>1</b>	<b>1</b>	<b>0</b>		<b>0</b>
<b>W2</b>	Disease transmission	<b>1</b>	<b>1</b>	<b>0</b>		<b>0</b>

<b>W3</b>	Surveillance, Risk analysis and Notification	<b>1</b>	<b>1</b>	<b>0</b>	Formative quiz(self-learning)	0
<b>W4</b>	Hygienic disposal of carcass	<b>1</b>	<b>1</b>	<b>0</b>		0
<b>W5</b>	Prevention and control of contagious disease	<b>1</b>	<b>1</b>	<b>0</b>		0
<b>W6</b>	Quarantine	<b>1</b>	<b>1</b>	<b>0</b>	Formative quiz(self-learning)	0
<b>W7</b>	<b>Semester works (one hour exam)</b>					
<b>W8</b>	Disinfection of animal buildings	<b>1</b>	<b>1</b>	<b>0</b>		0
<b>W9</b>	The insecticides and eradication of skin parasites	<b>1</b>	<b>1</b>	<b>0</b>		0
<b>W10</b>	Environmental sanitation	<b>1</b>	<b>1</b>	<b>0</b>	Formative quiz(self-learning)	0
<b>W11</b>	Environmental stressors and animal welfare	<b>1</b>	<b>1</b>	<b>0</b>		0
<b>W12</b>	Environmental diseases	<b>1</b>	<b>1</b>	<b>0</b>		0
<b>W13</b>	General requirements for Poultry housing	<b>1</b>	<b>1</b>	<b>0</b>		0
<b>W14</b>	Design of poultry housing	<b>1</b>	<b>1</b>	<b>0</b>	Formative quiz(self-learning)	0
<b>W15</b>	Biosecurity	<b>1</b>	<b>1</b>	<b>0</b>		<b>0</b>

## 5- Methods of students' assessment

### a- Assessment methods (summative and formative)

1. **Formative assessment:** including (weekly quizzes, homework assignments and surveys).
2. **Summative assessment** including (quizzes, class activities, Mid-term exam, practical exam, oral exams and final written exams).

#### b- Assessment schedule and weight

Assessment method	Assessment Timing (Week Number)	Marks/ Scores	Percent
Semester works including one hour exam	7 <sup>th</sup> week	50	50%
Assignments / Project /Portfolio/ Logbook	Throughout semester		
Field training			
Formative assessment	Throughout semester	-	-
Written exam	End of semester	50	50%
Total		100	100%

#### 6- Learning resources and supportive facilities:

<b>Learning resources</b>	Main reference	<b>Student handbook:</b> A concise guide of animal and poultry hygiene edited by staff members Edit by Staff members
	<b>Essential books (textbooks)</b>	<ul style="list-style-type: none"> <li>• Andres Aland (2013) Livestock Housing</li> <li>• P.K. Goel. (2009) Water Pollution</li> <li>Frank R. Theroux (2008) laboratory manual for chemical and bacterial analysis of water and sewage</li> </ul>
	<b>Periodicals, Web sites, . . . etc</b>	<ul style="list-style-type: none"> <li>• Veterinary Records.</li> <li>• Benha veterinary medical journal</li> <li>• <a href="http://www.OIE.int.org">www.OIE.int.org</a></li> <li>• <a href="http://www.WHO.int.org">www.WHO.int.org</a></li> <li>• <a href="http://www.cdc.org">www.cdc.org</a></li> <li>• <a href="http://www.ekb.eg">www.ekb.eg</a></li> </ul>
	<b>Learning platform</b>	Thinqi
<b>Supportive facilities</b>	<b>Devices &amp; instruments</b>	<b><u>Devices</u></b> <ol style="list-style-type: none"> <li>a. microscope</li> <li>b. PH meter</li> <li>c. Autoclave</li> <li>d. Hot air oven</li> <li>e. Vortex mixer</li> <li>f. Distiller</li> <li>g. Centrifuge</li> <li>h. Sterilization oven</li> <li>i. Water bath</li> <li>j. Anometer</li> <li>k. Thermo-hygrometer</li> </ol>

		1-Teaching hall (Data show and White board) 2-Equipped Department laboratory 3-Farm animal education 4-Laboratory animal unit.
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### **Matrices:**

#### **A- Content and ILOs matrix:**

<b>Topic</b>	<b>A) Knowledge and understanding</b>	<b>B) Intellectual skills</b>	<b>C) Professional and practical skills</b>	<b>D) General and transferable skills</b>
Common terms, Epidemiological investigation and etiologial agent	a1, a2, a3, a4, a5, a6	-		d1
Disease transmission	a1, a2, a3, a4, a5, a6	b1, b2, b3,b4	c1, c2-c3-c4	d2
Surveillance, Risk analysis and Notification	a1, a2, a3, a4, a5, a7	b1, b2, b3,b4	c1, c2-c3-c4	d1,d2, d3, d4, d5
Hygienic disposal of carcass	a1, a2, a3, a4, a5, a7	b1, b2, b3,b4	c2-c3-c4	d1,d2, d3, d4, d5
Prevention and control of contagious disease	a1, a2, a3, a4, a5, a7	b1, b2, b3,b4	c2-c3-c4	d1,d2, d3, d4, d5
Quarantine	a1, a2, a3, a4, a5, a6	b1, b2, b3,b4	c2-c3-c4	d1,d2, d3, d4, d5
Disinfection of animal buildings	a1, a2, a3, a4, a5, a6	b1, b2, b3,b4	c2-c3-c4	d1,d2, d3, d4, d5
The insecticides and eradication of skin parasites	a1, a2, a3, a4, a5, a6	b1, b2, b3,b4	c2-c3-c4	d1,d2, d3, d4, d5
Environmental sanitation	a1, a2, a3, a4, a5, a6	b3,b4	c2-c3-c4	d1,d2, d3, d4, d5
Environmental stressors and animal welfare	a1, a2, a3, a4, a5, a6	b3,b4	c1, c2-c3-c4	d1,d2, d3, d4, d5
Environmental diseases	a3, a5	b3,b4	c1, c2-c3-c4	d1,d2, d3, d4, d5

General requirements for Poultry housing	a3, a5	b3,b4	c1, c2-c3-c4	d1,d2, d3, d4, d5
Design of poultry housing	a3, a5	b3,b4	c1, c2-c3	d1,d2, d3, d4, d5
Biosecurity	a3, a5	b3,b4	c1, c2-c3	d1,d2, d3, d4, d5

#### B- Teaching and learning methods and ILOs matrix:

ILOs		Teaching and Learning methods				
		L	P&M	D&S	Bs	FTP
Knowledge and understanding	a1	√	√	√	√	
	a2	√	√	√	√	
	a3	√	√	√	√	
	a4	√	√	√	√	
	a5	√	√	√	√	
	a6	√	√	√	√	
	a7	√	√	√	√	
Intellectual skills	b1	√		√		√
	b2	√		√		√
	b3	√		√		√
	b4	√		√		√
Professional and practical skills	c1				√	√
	c2				√	√
	c3				√	√
	c4				√	√
General skills	d1					√
	d2				√	√
	d3				√	√
	d4				√	√
	d5				√	√

**L:** Lecture, **P&M:** Presentations & Movies, **D&S:** Discussions & Seminars (self-learning),  
**Ps:** Problem solving, **Bs:** Brain storming, **FTP:** field trip, Training, Project

#### C- Assessment methods and ILOs matrix:

ILOs		Assessment method		
		Formative assessment	Semester works (one hour exam)	Written
Knowledge and understanding	a1	√	√	√
	a2	√	√	√
	a3	√	√	√
	a4	√	√	√
	a5	√	√	√
	a6	√	√	√

	a7	√	√	√
Intellectual skills	b1	√	√	√
	b2	√	√	√
	b3	√	√	√
	b4	√	√	√
Professional and practical skills	c1	√	√	
	c2	√	√	
	c3	√	√	
	c4	√	√	
General skills	d1	√	√	
	d2	√	√	
	d3	√	√	
	d4	√	√	
	d5	√	√	

Name and Signature  
Course Coordinator

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