كليـــة الطب البيطرى
FACULTY OF VETERINARY MEDICINE

Specification for Special Bacteriology

2025/2026

1-Basic information

Course title	**Special Bacteriology**							
Course code	BIM.324							
Department/s participating in delivery of the course	Bacteriology, Immunology and Mycology department							
Number of units/credit hours	Theoretical	2	Practical	1(2)	Other	0	Total	3(4)
Course Type	√ **Obligatory** **Elective**							
Academic level at which the course is taught	3rd year							
Semester	Spring semester							
Academic program	Bachelor of Veterinary Medicine (BVM)							
Faculty	Veterinary medicine							
University	Benha University							
Name of course coordinator	Prof. Dr. Ashraf Awad Abd El-Tawab							
Course Specification Approval Date	Faculty council 27-8-2025							
Course Specification Approval (Attach the decision/minutes of the department /committee/council ....)	Department council on 8/7/2025							

2-Course overview

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

Identify gram positive cocci; Gram positive bacilli ; Gram positive coccobacilli Gram negative occobacilli; gram negative cocci gram negative bacilli special bacteria.

3- Course Learning Outcomes CLOs

(NARS) outcomes		Program outcomes		Course outcomes	
Code	**Text**	**Code**	**Text**	**Code**	**Text**
2.7	Various causes of animal diseases, their pathogenesis, macro- and micro-scopic pathological lesions, and laboratory diagnosis	**A7**	Describe various causes of animal diseases, their pathogenesis, macro- and microscopic pathological lesions, and laboratory diagnosis	a1	Define and classify bacteria involved in causing diseases to farm animals and economic losses
2.9	General and specific epidemiological pattern of animal population diseases and the most effective immunization protocols.	**A9**	Designate the general and specific epidemiological pattern of animal population diseases and the most effective immunization protocols		
				a2	Describe host- parasite relationship and microbial pathogenesis.
				a3	- Mention different measures of diagnosis, prevention and control including chemotherapeutic agents as well as treatment and vaccination of bacterial pathogens.
4.4	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	B6	Interpret laboratory results for different samples of normal and diseased animal to reach accurate diagnosis	b1	Illustrate a systematic approach for laboratory diagnosis of common infections and clinical conditions and select the most appropriate and cost-effective tool leading to the identification of the causative agent.

4.3	Inculcate a rigorous approach to problem identification and solving.	**B7**	Diagnose infectious, metabolic diseases and diseases of the different body systems and zoonotic diseases	b2	- Interpret results of microbiological, serological and molecular tests.
				b3	Use the scientific approach for prevention , control and suggestion of treatment for microbial infections.
3.4	Perform clinical examination of diseased cases and collect relevant samples			c1	Practice on sample collection for isolation of bacteria.
				c2	Choose suitable media for trials of isolation of different organisms.
		C4	Perform clinical examination of healthy and diseased animal and collect relevant samples to identify virus, bacteria, parasites and toxins and perform pathology and lab analysis.		
3.1		C13	Minimize the risk of contamination, cross infection and predisposing factors of diseases by applying hygienic and control methods	c3	Use the equipment and chemicals in the microbiology laboratory.
				c4	Perform different methods for identification of bacteria.
3.13	Minimize the risk of contamination, cross infection and predisposing factors of diseases			c.5	Solve problems during isolation.
				c.6	Apply recent tehniques used for identification of bacteria.
		D			

5.1	Work under pressure and / or contradictory conditions.	D^1	Work under pressure and / or contradictory conditions.	d1	Using power point presentation in seminars.
5.5	Search for new information and technology as well as adopting life–long self-learning.	D^5	Search for new information and technology as well as adopting life–long self- learning.	d2	- Using the internet for getting more information.
5.6	Utilize computer and internet skills.	D^6	Utilize computer and internet skills.	d3	- Communicate with others for improving quality of learning.
				d.4	- Retrieve information from different sources independently.
				d.5	Coordinate for conference, workshop.

4- Teaching and learning methods					
Lectures	√	**Discussion & seminar**	√	**Practical**	√
Presentation & movies	√	**Problem solving**	√	**Brain storming**	√
Others					

- 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)**
W1	Genus Staphylococcus - Sampling	**3(4)**	**2**	**1(2)**	**0**	

W2	Genus Streptococcus - Sampling	**3(4)**	**2**	**1(2)**	**0**	
W3	Genus Bacillus Staining methods	**3(4)**	**2**	**1(2)**	**0**	
W4	Genus Clostridium Staining methods	**3(4)**	**2**	**1(2)**	**0**	
W5	Genus Mycobacterium Staining methods	**3(4)**	**2**	**1(2)**	**0**	
W6	Genus Corynebacterium Cultivation and culture characters (aerobic)	**3(4)**	**2**	**1(2)**	**0**	
W7	Semester work including 1 hour exam	----------				
W8	Cultivation and culture characters (aerobic)	**3(4)**	**2**	**1(2)**	**0**	
W9	Genus: Yersinia Cultivation and culture characters (aerobic)	**3(4)**	**2**	**1(2)**	**0**	
W10	Genus Pseudomonas Anaerobic cultivation	**3(4)**	**2**	**1(2)**	**0**	
W11	Genus Brucella Anaerobic cultivation	**3(4)**	**2**	**1(2)**	**0**	
W12	Genus Pasteurella Biochemical tests	**3(4)**	**2**	**1(2)**	**0**	
W13	Genus Mycoplasma Biochemical tests	**3(4)**	**2**	**1(2)**	**0**	
W14	Genus Campylobacter, Haemophilus Serological tests	**3(4)**	**2**	**1(2)**	**0**	
W15	Practical exam	----------				

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, Semester work including 1 hour exam, practical exam, oral exams and final written exams).

b- Assessment schedule and weight

Assessment method	**Assessment Timing (Week Number)**	**Marks/ Scores**	Percent Percentage of total course Marks
Semester work	7th week	10	10%
Formative assessment	Through the semester	----------	
Practical exam	15th week	30	30%
oral exam	End of semester	10	10%
Written exam	End of semester	50	50%
Assignments / Project /Portfolio/ Logbook	--------	-------	-------
Field training	--------	----------	-------
Other (Mention)	-------	--------	-------
Total		100	100%

6- Learning resources and supportive facilities:

Teaching and learning methods	**Main reference**	**Student handbook**: Edit by Staff members
	Essential books (text books)	Cruckshank, Mermion and Swain. Medical Microbiology. Vol. I & II. Merchant and Packer. Veterinary Bacteriology and Virology. Topley and Wilson. Textbook of Microbiology and Microbial infections. Wight, Hirsh,Maclachlan and Walker. Veterinary Microbiology. Quinn, Carter, Carter and Markey. Clinical Veterinary Microbiology

	Periodicals, Web sites, . . . etc	Journal of Veterinary Microbiology. Benha veterinary medical journal http://www.microbe.org/microbes/virus_or_bacterium.asp http://www.bact.wisc.edu/Bact330/330Lecturetopics .http://www.microbelibrary.org/ .http://www.mic.ki.se/Diseases/c2.html •
	Learning platform	Thinqi
Facilities required for teaching and learning	**Devices & instruments**	As listing in device guideline
		1-Teaching hall (Data show and White board) 2-Equipped Department laboratory (Instruments used for bacteriological isolation and identification).

Matrices:

A- Content and ILOs matrix:

Topic	A) Knowledge and understanding	B) Intellectual skills	C) Professional and practical skills	D) General and transferable skills
I- Gram positive bacteria **Gram negative bacteria**	**a1, a2,a3**	**b1, b2, b3**	**C1, c2, c3, c4, c5, c6**	**d1, d2,d3, d4**
III- Practical course				
1- Sampling	**a3**	**b1, b2**	**C1, c3**	**d2,d3,d4,d5**
2- Staining methods	**a3**	**b1, b2**	**C3, c4, c6**	**d2,d3,d4,d5**
3- Cultivation and culture characters (aerobic)	**a3**	**b1, b2**	**C2, c3, c4, c5**	**d2,d3,d4,d5**

4- Anaerobic cultivation	**a3**	**b1, b2**	**C2, c3, c4, c5**	**d2,d3,d4,d5**
5- Biochemical tests	**a3**	**b1, b2**	**C2, c3, c4**	**d2,d3,d4,d5**
6-Serological tests	**a3**	**b1, b2**	**C4, c5, c6**	**d2,d3,d4,d5**

B- Teaching and learning methods and ILOs matrix:

ILOs		Teaching and Learning method					
		L	P&M	D&S	P	Ps	Bs
Knowledge and understanding	a1	√	√	√			√
	a2	√	√	√			√
	a3	√	√	√			√
	a4	√	√	√			√
Intellectual skills	b1	√	√	√	√	√	√
	b2	√	√	√	√	√	√
	b3	√	√	√	√	√	√
Professional and practical skills	c1		√	√	√	√	
	c2		√	√	√	√	
	c3		√	√	√	√	
	c4		√	√	√	√	
	c5		√	√	√	√	
	c6		√	√	√	√	
General skills	d1		√				
	d2	√					
	d3	√		√	√	√	√
	d4	√		√	√		

L **:Lecture,** P&M**: Presentations & Movies,** D&S: **Discussions & Seminars P: Practical** Ps: **Problem solving,** Bs: **Brain storming**

C- Assessment methods and ILOs matrix:

ILOs		assessment method				
		Formative	Semester 1 hour exam	Oral	practical	written
Knowledge and	a1	√	√	√		√
	a2	√	√	√		√
	a3	√	√	√		√
	a4	√	√	√		√

understanding						
Intellectual skills	b1	√	√	√		√
	b2	√	√	√		√
	b3	√	√	√		√
Professional and practical skills	c1	√			√	
	c2	√			√	
	c3	√			√	
	c4	√			√	
	c5	√			√	
	c6	√			√	
General skills	d1	√		√		
	d2	√		√		
	d3	√		√		
	d4	√		√		

-Course coordinator:

Prof. Dr. Ashraf Awad Abd El-Tawab

Head of the department: Ass. Prof. Amira Mohamed Ali Rizk

-Program coordinator: Prof. Dr. Mahmoud Abouelroos