Specification Physiology (D)

2025/2026

1-Basic information

Course title	Physiology (D)							
Course code	PHY.221							
Department/s participating in delivery of the course	Physiology							
Number of units/credit hours	Theoretical	1	Practical	1(2)	Other	0	Total	2(3)
Course Type	√ **Obligatory** **Elective**							
Academic level at which the course is taught	2nd year							
Semester	spring semester							
Academic program	Bachelor of Veterinary Medicine (BVM)							
Faculty	Veterinary medicine							
University	Benha University							
Name of course coordinator	Prof. Dr. Abeer Abdel Aleem							
Course Specification Approval Date	Faculty council 27-8-2025							
Course Specification Approval (Attach the decision/minutes of the department /committee/council ....)	Department council/							

2-Course overview

- **Course contents written in the program bylaw:**
  physiology of reproduction, digestive system and comparative physiology

3- Course Learning Outcomes CLOs

	(NARS) outcomes		Course outcomes	
	Code	**Text**	**Code**	**Text**
			a1	Identify the reproductive patterns and estrous cycle in

				different animals and hormones controlling reproduction
Knowledge and understanding	2.4	Physiological and biochemical bases of different organ functions, metabolic processes and homeostasis.	a2	Describe the function of digestive system and realize mechanisms control its functions
			a3	Summarize the physiological similarities and differences in mammals, avian and fish
Intellectual skills	4.1	Foster critical thinking and scientific curiosity	b1	Correlate the hormonal function and reproduction and lactation
			b2	Interpret the physiological effect of digestive system
			b3	Discuss the physiological differences in mammals, avian and fish
Professional and practical skills	3.4	Perform clinical examination of diseased cases and collect relevant samples.	c1	Perform vaginal smear and identify different phases of estrous cycle.
			c2	Apply pregnancy diagnosis
			c3	Examine semen samples
			c4	Examine ruminal juice
			c5	Calculate RBCs and WBCs in avian and fish
	D			
General and transferable skills	5.2	Function in a multidisciplinary team.	d1	Self-learning during lecture
	5.4	Organize and control tasks and resources	d2	Manipulate and organize tasks
	5.5	Search for new information and technology as well as adopt life–long self learning ethics.	d3	Search for new information and technology
	5.6	Utilize computer and internet skills	d4	Utilize computer and internet skills

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	Physiology of Reproduction and lactation1	2(3)	**1**	1(2)		**0**
W2	Physiology of Reproduction and lactation2	2(3)	**1**	1(2)		**0**
W3	Physiology of Reproduction and lactation3	2(3)	**1**	1(2)	**Formative quiz**	**0**
W4	Physiology of the Digestive System1	2(3)	**1**	1(2)		**0**
W5	Physiology of the Digestive System2	2(3)	**1**	1(2)		**0**
W6	Physiology of the Digestive System3	2(3)	**1**	1(2)	**Formative quiz**	**0**
W7	Semester work including 1hr exam	----------				
W8	Physiology of the Digestive System4	2(3)	**1**	1(2)		**0**

W9	Avian Physiology1	2(3)	**1**	1(2)		**0**
W10	Avian Physiology2	2(3)	**1**	1(2)	**Formative quiz**	**0**
W11	Avian Physiology3	2(3)	**1**	1(2)		**0**
W12	Fish Physiology1	2(3)	**1**	1(2)		**0**
W13	Fish Physiology2	2(3)	**1**	1(2)		**0**
W14	Fish Physiology3	2(3)	**1**	1(2)	**Formative quiz**	**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, 1hr 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 (1hr exam)	7th week	10	10%
Formative assessment	Throughout 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:

Learning resources	**Main reference**	**Student handbook:** Veterinary Physiology, Edited by physiology staff members
	Essential books (text books)	• Larry R. Engelking (2015) Textbook of veterinary physiological chemistry • J. W. Harvey (2012) Veterinary hematology • David R. Gross (2009) Animal models in cardiovascular research • Course note.. • David R. Gross (2009) Animal models in cardiovascular research
	Periodicals, Web sites, . . . etc	• www.ekb.eg • Veterinary Journal • Poultry Science • Veterinary Record
	Learning platform	Thinqi
supportive facilities	**Devices & instruments**	**Devices** **1/ Microscope** **2/Sahli's Hemometer** **3/Microhematocrit centrifuge** **4/Microhematocrit Reader** 5/Centrifuge **Instruments** **1/wire loop** **2/glass slides** **3/pipette** **4/Hemocytometer** **5/RBC's mixing pipette** **6/Wintrobe tube** **7/Capillary tube** 8/Pasteur pipette

		1. Data show. 2. White board 3. Physiology laboratory.

Matrices:

A- Content and ILOs matrix:

Topic	A) Knowledge and understanding	B) Intellectual skills	C) Professional and practical skills	D) General and transferable skills
Physiology of Reproduction and lactation	a1	b1	c1,c2,c3	d1 to d4
Physiology of the Digestive System	,a2	b2	c4	d1 to d4
Avian Physiology	a3	b3	c5	d1 to d4
Fish Physiology	a3	b3	c5	d1 to d4

B- Teaching and learning methods and ILOs matrix:

ILOs		Teaching and Learning method					
		L	P&M	D&S	P	Ps	Bs
ge and understa	a1	√		√			
	a2	√		√			
	a3	√		√			
Intellectu al skills	b1			√			√
	b2			√			√
	b3			√			√
and practical	c1				√		√
	c2				√		
	c3				√		
	c4				√		
al	c5				√		
ne ski	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 1hr exam	Oral	practical	written
Knowledge and understanding	a1		√	√		√
	a2		√	√		√
	a3		√	√		√
Intellectual skills	b1	√	√	√		√
	b2	√	√	√		√
	b3	√	√	√		√
Professional and practical skills	c1				√	
	c2				√	
	c3				√	
	c4				√	
	c5				√	
General skills	d1			√		
	d2	√		√		
	d3	√		√		
	d4	√		√		

-Course coordinator:

Prof. Dr. Abeer Abdel Aleem

-Program coordinator: Prof. Dr. Mahmoud Abouelroos