

## Specification for Histology of poultry and fish (D)

2025/2026

### 1-Basic information

Course title	Histology of poultry and fish (D)								
Course code	HIS.227								
Department/s participating in delivery of the course	Histology								
Number of units/credit hours	Theoretical	1	Practical	1(2)	Other	0	Total	2(3)	
Course Type	√ <b>Obligatory</b> <b>Elective</b>								
Academic level at which the course is taught	2 <sup>nd</sup> year								
Semester	Spring semester								
Academic program	Bachelor of Veterinary Medicine (BVM)								
Faculty	Veterinary medicine								
University	Benha University								
Name of course coordinator	Prof. Dr. Ihab Mahmoud Abd El-Aal EL-Zoghby								
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:  
Comparative histology of different system in poultry and fish

### 3- Course Learning Outcomes CLOs

(NARS) outcomes			Course outcomes	
	Code	Text	Code	Text

<b>Knowledge and understanding</b>	2.3	Normal macro and micro-structure of body tissues, organs and systems of animals, birds and fish.	a1	recognize the basic knowledge about histology of endocrine organs of poultry and fish
			a2	identify the basic knowledge about histology of digestive tube of poultry and fish
			a3	illustrate the basic knowledge about histology of respiratory tract of poultry and gills of fish.
			a4	Describe structure of different organs of urinary system of poultry and fish.
			a5	estimate the basic knowledge about male and female genital tract of poultry and fish
			a6	Describe structure of different lymphatic organs of poultry.
			a7	clarify the basic information about Nervous system and skin of fish.
Intellectual skills	4.1	Foster critical thinking and scientific curiosity.	b1	analyze different endocrine gland of poultry and fish
			b2	Differentiate between different structures of digestive tube of poultry and fish.
			b3	compare between different organs of respiratory tract of poultry and fish
			b4	Distinguish different organs of urinary system of poultry and fish
			b5	Distinguish the difference between male and female genital tract of poultry and fish.
			b6	Compare between different lymphatic organs of poultry
			b7	Distinguish the histology of nervous system and skin of fish
			c1	Prepare tissue and organs for

Professional and practical skills	3.1	Employ all the gained knowledge and understanding in clinical practice in a skillful pattern.		staining
			c2	Stain tissues and organs with different stains
			c3	Examine different tissue types
			c4	demonstrate different organs of different systems.
General and transferable skills	D			
	5.1	Work under pressure and / or contradictory conditions.	d1	Work under pressure during histological lab session
	5.2	Function in a multidisciplinary team	d2	Communicate effectively with lab collage
	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	Endocrine system of poultry and fish	2(3)	1	1(2)		0
W2	Digestive system of Poultry	2(3)	1	1(2)		0
W3	Digestive system of fish	2(3)	1	1(2)		0
W4	Respiratory system of Poultry	2(3)	1	1(2)	Formative quiz	0
W5	Respiratory system of fish	2(3)	1	1(2)		0
W6	Urinary system of poultry	2(3)	1	1(2)		0
W7	Semester work including 1 hr exam	-----				
W8	Urinary system of fish	2(3)	1	1(2)		0
W9	Male Genital system of poultry	2(3)	1	1(2)		0
W10	Male Genital system of fish	2(3)	1	1(2)	Formative quiz	0
W11	Female Genital system of poultry	2(3)	1	1(2)		0
W12	Female Genital system of fish	2(3)	1	1(2)		0
W13	Lymphatic system of Poultry	2(3)	1	1(2)	Formative quiz	0
W14	Nervous system and skin of fish	2(3)	1	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, 1 hr 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 including 1 hr exam	7 <sup>th</sup> week	10	10%
Formative assessment	Throughout the semester	-----	-----
Practical exam	15 <sup>th</sup> 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	<b>Student handbook:</b> Fundamental veterinary histology, Edited by Staff members. Essential Laboratory Histology, Edit by Staff members
	Essential books (text books)	<b>J. Dunn (2014)</b> Manual of diagnostic cytology of the dog and cat  <b>D. F. Paulsen (2010)</b> histology and cell biology  <b>D. A. Samuelson (2007)</b> Veterinary Histology  <b>Eroschenko, V. P. (2005):</b> difiore's Atlas

		<p>of histology. 10<sup>th</sup> Ed. Philadelphia Baltimore New York London Buenos Aires Hong Kong Sydney Tokyo</p> <p><b>Junqueira, L. C. and Carneiro J. (2003):</b> Basic histology. Tenth Edition. McGraw-Hill. New York Chicago San Francisco Lisbon London Madrid Mexico city New Delhi San Juan Seoul Singapore Sydney Toronto</p> <p><b>D. A. Samuelson (2007)</b> Veterinary Histology</p> <p><b>Drury R. A. B. and Wallington E. A. (1980):-</b> Carleton's Histological technique. 4<sup>th</sup> ED., Oxford Unvi., Press. London, New York, Toronto.</p>
	Periodicals, Web sites, . . . etc	<ul style="list-style-type: none"> <li>• Journal of Anatomy.</li> <li>• Journal of Cell Ultrastructure</li> <li>• Cell tissue Research</li> <li>• Anatomia Histologia Embryologia</li> <li>• <a href="http://www.ekb.eg">www.ekb.eg</a></li> <li>• <a href="http://www.drihab1.com">http://www.drihab1.com</a></li> <li>• <a href="http://www.vt.com">http://www.vt.com</a></li> </ul>
	Learning platform	Thinqi
supportive facilities		<ol style="list-style-type: none"> <li>1. Data show</li> <li>2. White board</li> <li>3. Laboratory.</li> <li>4. Tissue processing &amp; staining</li> </ol>

	<b>Devices &amp; instruments</b>	<p>Devices</p> <p><input type="checkbox"/> Microscope</p> <p><input type="checkbox"/> Microtome</p> <p><input type="checkbox"/> Automatic stainer</p> <p><input type="checkbox"/> water bath</p> <p><input type="checkbox"/> Incubator</p> <p>instruments</p> <p><input type="checkbox"/> Jars</p> <p><input type="checkbox"/> Pipette</p> <p><input type="checkbox"/> Cylinder</p> <p><input type="checkbox"/> beaker</p> <p><input type="checkbox"/> Analytical balance</p>
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### Matrices:

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

Topic	A) Knowledge and understanding	B) Intellectual skills	C) Professional and practical skills	D) General and transferable skills
Endocrine system of poultry and fish	a1	b1	c1,c2,c4	d1- d4
Digestive system of Poultry and fish	a2	b2	c1-c3	d1- d4
Respiratory system of Poultry and fish	a3	b3	c1-c2,c3	d1- d4
Urinary system of poultry and fish	a4	b4	c1-c2	d1- d4
Male Genital system of poultry and fish	a5	b5	c1-c3	d1- d4
Female Genital system of poultry and fish	a5	b5	c1,c2,c3	d1- d4

Lymphatic system of Poultry	a6	b6	c1,c3	d1- d4
Nervous system and skin of fish	a7	b7	c1-c4	d1- d4

### 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	√				√	
	a5	√				√	
	a6	√				√	
	a7	√				√	
Intellectual skills	b1			√			√
	b2			√			√
	b3			√			√
	b4			√			
	b5			√			
	b6			√			
	b7			√			
Professional and practical skills	c1				√		
	c2				√		
	c3				√		
	c4				√		
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	Oral	practical	written



			work(1hr exam)			
Knowledge and understanding	a1	√	√	√		√
	a2	√	√	√		√
	a3	√	√	√		√
	a4	√	√	√		√
	a5	√	√	√		√
	a6	√	√	√		√
	a7	√	√	√		√
Intellectual skills	b1	√	√	√		√
	b2	√	√	√		√
	b3	√	√	√		√
	b4	√	√	√		√
	b5	√	√	√		√
	b6	√	√	√		√
	b7	√	√	√		√
Professional and practical skills	c1	√		√	√	
	c2	√		√	√	
	c3	√		√	√	
	c4	√		√	√	
General skills	d1	√		√		
	d2	√		√		
	d3	√		√		
	d4	√		√		

**-Course coordinator:**

Prof. Dr. Ihab Mahmoud Abd El-Aal EL-Zoghby

**-Program coordinator: Prof. Dr. Mahmoud Abouelroos**