Specification for Histology A

2025/2026

1-Basic information

Course title	Histology A							
Course code	HIS.115							
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	√ **Obligatory** **Elective**							
Academic level at which the course is taught	1st year							
Semester	Fall 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 8/7/2025							

2-Course overview

- **Course contents written in the program by law:**
  Cytology: cytology, cell biology, histochemistry, immunohistochemistry and cytogenetics, epithelial and connective tissue. Histological techniques, electron microscopy and immunoflurcence.

3- Course Learning Outcomes CLOs

	(NARS) outcomes		Course outcomes	
	Code	**Text**	**Code**	**Text**
Knowledge and understanding	2.3	Normal macro and microstructure of body tissues, organs and systems of animals, birds and fish.	a1	Identify the basic knowledge about cytology
			a2	Define the basic knowledge about cytogenetic and cytochemistry
			a3	Identify the basic information about epithelial tissue
			a4	Identify the basic information about connective tissue
Intellectual skills	4.1	Foster critical thinking and scientific curiosity.	b1	Distinguish different histological component of the cell
			b2	Distinguish the histological data about cytogenetic and cytochemistry
			b3	Judge the identification of epithelial tissue
			b4	Detect the different histological structure of connective tissue
Professional and practical skills	3.1	Employ all the gained knowledge and understanding in clinical practice in a skillful pattern.	c1	Prepare tissue for staining
			c2	Stain tissues with different stains
			c3	Examine different cell types
			c4	Discover different types of cells
	5.1	Work under pressure and / or contradictory conditions.	d1	Work under pressure during histological lab cession

General and transferable skills	5.2	Function in a multidisciplinary team.	d2	Self-learning during histology lecture
	5.5	Search for new information and technology as well as adopting life–long self- learning.	d3	Search for new information and technology about immunohistochemistry.
	5.6	Utilize computer and internet skills.	d4	Utilize computer and internet skills, read paper via internet about histology.

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	Cytology, membraneous organells	**2(3)**	**1**	**1(2)**		**0**
W2	Cytology, non membraneous organells	**2(3)**	**1**	**1(2)**		**0**
W3	Cytology, Cytoplasmic inclusion	**2(3)**	**1**	**1(2)**	**Formative quiz**	**0**
W4	Cyotology, nucleus	**2(3)**	**1**	**1(2)**		**0**

W5	Cytochemistry and cytogenetic	**2(3)**	**1**	**1(2)**		**0**
W6	Epithelium Tissue, surface epithelium	**3(5)**	**1**	**2(4)**	**Formative quiz**	**0**
W7	Semester work (One hour exam)	----------				
W8	Epithelium Tissue, Glandular and special epithelium	**2(3)**	**1**	**1(2)**		**0**
W9	Connective Tissue, cells, fibers &ground substance	**2(3)**	**2**	**1(2)**		**0**
W10	Connective Tissue, types	**2(3)**	**1**	**1(2)**	**Formative quiz**	**0**
W11	Connective Tissue, cartilage	**2(3)**	**1**	**1(2)**		**0**
W12	Connective Tissue, Bone	**2(3)**	**1**	**1(2)**		**0**
W13	Connective Tissue, Bone marrow	**2(3)**	**1**	**1(2)**		**0**
W14	Connective Tissue, Blood cells	**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, one 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 including one hour exam	7th week	10	10%
Formative assessment	----------	---------	---------
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**: Fundamental veterinary histology, Edited by Staff members**.** Essential Laboratory Histology, Edit by Staff members
	Essential books (text books)	**J. Dunn (2014)** Manual of diagnostic cytology of the dog and cat **D. F. Paulsen (2010)** histology and cell biology **D. A. Samuelson (2007)** Veterinary Histology ***Eroschenko, V. P. (2005):*** difiore's Atlas of histology. 10th Ed. Philadelphia Baltimore New York London Buenos Aires Hong Kong Sydney Tokyo ***Junqueira, L. C. and Carneiro J. (2003):*** Basic histology. Tenth Edition. McGraw-Hill. New York Chicago San Francisco Lisbon London Madrid Mexico city New Delhi San Juan Seoul Singapore Sydney Toronto **D. A. Samuelson (2007)** Veterinary Histology

		Drury R. A. B. and Wallington E. A. (1980):- Carleton's Histological technique. 4th ED., Oxford Unvi., Press. London, New York, Toronto.
	Periodicals, Web sites, . . . etc	• Journal of Anatomy. • Journal of Cell Ultrastructure • Cell tissue Research • Anatomia Histologia Embryologia • www.ekb.eg • *http://www.drihab1.com* • http://www.vt.com
	Learning platform	Thinqi
supportive facilities		1. Data show 2. White board 3. Laboratory. 4. Tissue processing & staining

	Devices & instruments	Devices Microscope Microtome Automatic stainer water bath Incubator instruments Jars Pipette Cylinder beaker Analytical balance

Matrices:

A- Content and ILOs matrix:

Topic	A) Knowledge and understanding	B) Intellectual skills	C) Professional and practical skills	D) General and transferable skills
Cytology, membraneous organells	a1	b1	c1,c2,c3	d1,d2,d3,d4
Cytology, non membraneous organells	a1	b1	c1,c2,c3	d1,d2,d3,d4
Cytology, Cytoplasmic inclusion	a1	b1	c1,c2,c3	d1,d2,d3,d4

Cyotology, nucleus	a1	b1	c1,c2,c3	d1,d2,d3,d4
Cytochemistry and cytogenetic	a2	b2	C3- c4	d1,d2,d3,d4
Epithelium Tissue, surface epithelium	a3	b3	C3- c4	d1- d2-d4
Epithelium Tissue, Glandular and special epithelium	a3	b3	C3- c4	d1- d2-d4
Connective Tissue, cells, fibers &ground substance	a4	b4	c1,c2, c4	d1- d2-d4
Connective Tissue, types	a4	b4	c1,c2, c4	d1- d2-d4
Connective Tissue, cartilage	a4	b4	c1,c2, c4	d1- d2-d4
Connective Tissue, Bone	a4	b4	c1,c2, c4	d1- d2-d4
Connective Tissue, Bone marrow	a4	b4	c1,c2, c4	d1- d2-d4
Connective Tissue, Blood cells	a4	b4	c1,c2, c4	d1- d2-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	√	√	√	√	√	√
Intellectual skills	b1	√		√			
	b2	√		√			
	b3	√		√			
	b4	√		√			
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 assesment	Semester work (1 hr exam)	Oral	practical	written
Knowledge and understanding	a1		√	√		√
	a2		√	√		√
	a3		√	√		√
	a4		√	√		√
Intellectual skills	b1	√	√	√		√
	b2	√	√	√		√
	b3	√	√	√		√
	b4	√	√	√		√
Professional and practical	c1				√	
	c2				√	
	c3				√	

skills	c4				√	
General skills	d1	√				
	d2	√		√		
	d3	√		√		
	d4	√				

-Course coordinator:

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

-Program coordinator: Prof. Dr. Mahmoud Abouelroos