Specification for anatomy and embryology (C)
2025/2026

1-Basic information

1.	**Course title**	Anatomy and Embryology (c)							
2.	**Course code**	**ANE.213**							
3.	**Department offering the course**	Anatomy and embryology							
4.	**Number of hours**	**Theoretical**	2	Practical	1(2)	Other	0	Total	3(4)
5.	**Course Type**	√ **Obligatory** **Elective**							
6.	**Level**	2nd year							
7.	**Semester**	Fall semester							
8.	**Academic program**	Bachelor of Veterinary Medicine (BVM)							
9.	**Faculty**	Faculty of Veterinary medicine							
10.	**University**	Benha University							
11.	**Name of course coordinator**	Prof. dr. Hatem Bahgaat Houssainy							
12.	**Course Specification Approval Date**	Faculty council/ 27-8-2025							
13.	**Course Specification Approval (Attach the decision/minutes of the department /committee/council ....)**	Department council/ 7-8-2025							

2-Course overview

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

Digestive system, lymphatic system, vertebral column, anatomy of ribs and sternum and dissection of the abdomen and thorax

3- Intended learning outcomes of the course (ILOs):

(NARS)			**Course ILOS**	
	Code	**Content**	**Code**	**Content**
Knowledge and	2.3	Normal macro and micro-	a1	Depict a concise knowledge about the anatomy of the digestive system of different animal species
			a2	Identify the anatomical

understanding		structure of body tissues, organs and systems of animals, birds and fish.		features and positioning of lymphatic system of different domestic animals
			a3	Describe a comprehensive knowledge about the digestive and lymphatic system and comparative anatomy among different domestic animals
			a4	Mention the principles comparative anatomy of the vertebral Column, ribs, sternum, digestive and thorax
Intellectual skills	4.1	Foster critical thinking and scientific curiosity.	b1	Compare the different features of digestive and lymphatic systems in the animals species
			b2	Evaluate the skills of dissection of the abdomen and thorax
			b3	Illustrate the types of bones of the vertebral column and the animal species
			b4	Inspect of the site of different digestive and lymphatic in different animals
Professional and practical skills	3.1	Employ all the gained knowledge and understanding in clinical practice in a skillful pattern.	c1	Measure the professional capability to dissect the abdomen and thorax
			c2	Measure the professional capability to identify the shape and position of different bones of the vertebral column and sternum of different domestic animals
			c3	Evaluate the skills to compare between bones of the vertebral column, sternum and ribs of different domestic animals
			c4	Evaluate the skills to compare between organs digestive systems and lymphatic of different domestic animals

General skills	D			
	5.1	Work under pressure and / or contradictory conditions.	d1	Work under pressure during anatomy 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	Utilize computer and internet skills, read paper via internet related to his research project
	5.6	Utilize computer and internet skills.	d4	Search for new information and technology

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

- Course contents:

Number of the Week	**Scientific content of the course (Course Topics)**	**Expected number of the Learning Hours**				
		Total Weekly hours	**Theoretical teaching (lectures/discussion groups/ .....)**	**Training (Practical/ Clinical/ .....)**	**Self-learning (Tasks/ Assignments/ Projects/ ...)**	**Other**
W1	Lower digestive System1	**3(4)**	**2**	**0**		**0**
	Vertebral Column1		**0**	**1(2)**		
W2	Lower digestive System2	**3(4)**	**2**	**0**		**0**
	Vertebral Column2		**0**	**1(2)**		
W3	Lower digestive System3	**3(4)**	**2**	**0**	**Formative quiz**	**0**
	Vertebral Column3		**0**	**1(2)**		
W4	Lower digestive System3	**3(4)**	**2**	**0**		**0**
	Anatomy of Ribs &Sternum		**0**	**1(2)**		

W5	Lower digestive System4	**3(4)**	**2**	**0**		**0**
	Dissection of the Abdomen and Thorax		**0**	**1(2)**		
W6	Lower digestive System5	**3(4)**	**2**	**0**	**Formative quiz**	**0**
	Dissection of the Abdomen and Thorax		**0**	**1(2)**		
W7	Semester work including 1hr exam.	----------				
W8	Lower respiratory System1	**3(4)**	**2**	**0**		**0**
	Dissection of the Abdomen and Thorax		**0**	**1(2)**		
W9	Lower respiratory System2	**3(4)**	**2**	**0**	**Formative quiz**	**0**
	Dissection of the Abdomen and Thorax		**0**	**1(2)**		
W10	Lower respiratory System3	**3(4)**	**2**	**0**		**0**
	Dissection of the Abdomen and Thorax		**0**	**1(2)**		
W11	Lymphatic System1	**3(4)**	**2**	**0**		**0**
	Dissection of the Abdomen and Thorax		**0**	**1(2)**		
W12	Lymphatic System2	**3(4)**	**2**	**0**	**Formative quiz**	**0**
	Dissection of the Abdomen and Thorax		**0**	**1(2)**		
W13	Lymphatic System3	**3(4)**	**2**	**0**		**0**
	Dissection of the Abdomen and Thorax		**0**	**1(2)**		
W14	Lymphatic System4	**3(4)**	**2**	**0**		**0**
	Comparative organs		**0**	**1(2)**		
W15	Practical exam	----------				

5- Assessment timing and grading:

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	Timing	Grade	Percent
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%
Total		100	100%

6- Learning resources and supportive facilities:

Learning resources	**Main reference**	**Student handbook**: department note
	Essential books (text books)	• H.E. Konig & H. G. Liebich (2020) veterinary anatomy of domestic mammals text book and colour atlas 7th Edition. • Dyce, Sack and Wensing's (2018) Textbook of Veterinary Anatomy fifth edition. • Alexander de Lahunta (2015) Veterinary neuroanatomy and Clinical Neurology • G. E. Abdelhakim (2009) Atlas Anatomy of The Horse • K.S. Roy (2009) foundation of veterinary embryology • T.A.McGeady ,P.J.Quinn (2009) Veterinary Embryology • Alexander de Lahunta (2015) Veterinary neuroanatomy and Clinical Neurology • T.A.McGeady ,P.J.Quinn (2009) Veterinary Embryology.
	Periodicals, Web sites, . . . etc	• Acta Anatomica. • Equine Veterinary journal • American Journal of Veterinary Anatomy • American Journal of Veterinary Research • Veterinary Record www.ekb.eg
	Learning platform	Thinqi
supportive facilities	**Devices & instruments**	Stereo Microscope Light Microscope

		1. Data show 2. White board 3. Anatomy laboratory 4. Phantoms and models for different organs and bones 5. Carcasses for dissection and demonstration 6. Anatomy museum or anatomy skill lab.

Matrices:

A- Content and ILOs matrix:

Topic	A) Knowledge and understanding	B) Intellectual skills	C) Professional and practical skills	D) General and transferable skills
Digestive System	a1, a3,a4	b1,b4	c1,c4	d1 to d4
Lymphatic System	a2, a3,a4	b1,b4	c1,c4	d1 to d4
Vertebral Column	a4	b3	c2,c3	d1 to d4
Anatomy of Ribs &Sternum	a4	b3	c2,c3	d1 to d4
Dissection of the Abdomen and Thorax	a4	b2	c1	d1 to d4

B. Teaching and learning and assessment methods:

ILOs		Teaching and Learning method							
		L	P&M	D&S	P	Ps	Bs	S	Rp
Knowledge and understanding	a1	√		√		√			√
	a2	√		√		√			√
	a3	√		√		√			
	a4	√		√		√			√
Intellectual skills	b1	√		√					√
	b2	√		√					√
	b3	√		√					√
	b4	√		√					
l and practical	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** S: **simulation Rp: role play**

C- Assessment methods and ILOs matrix:

ILOs		assessment method				
		formative	Semester 1hr exam	Oral	practical	Written
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	√	√	√		

Course coordinator: Dr. Hatem Bahgaat Houssainy
Head of department Prof. Dr. Ahmed Abdel-Rahman Kassab

-Program coordinator: Prof. Dr. Mahmoud Abouelroos