

**City University of Hong Kong
Course Syllabus**

**offered by Department of Infectious Diseases and Public Health
with effect from Semester A 2020 /20**

Part I Course Overview

Course Title: Animal Body

Course Code: VM 3012

Course Duration: 1 semester

Credit Units: 18 credits

Level: B3

Proposed Area: Arts and Humanities
(for GE courses only) Study of Societies, Social and Business Organisations
 Science and Technology

Medium of Instruction: English

Medium of Assessment: English

Prerequisites: Completion of all Year 2 courses with C grade or above
(Course Code and Title)

Precursors: Nil
(Course Code and Title)

Equivalent Courses: Nil
(Course Code and Title)

Exclusive Courses: Nil
(Course Code and Title)

Part II Course Details

1. Abstract

(A 150-word description about the course)

This course is designed to enable students to understand the principles of veterinary anatomy at the gross, microscopic, and ultrastructural levels in species relevant to the local context, including carnivores, swine, ruminants, equines, birds and fish. The course emphasizes developmental anatomy to the extent that it reflects determination of adult form, species differences, and common congenital malformations. Radiologic and related imaging techniques are used throughout the course to assist in the understanding of normal structural anatomy. Understanding of the anatomic basis of common surgical procedures is achieved during the various dissection procedures. The course is based on tutorials with significant emphasis on practical laboratories. Lectures and modules complement student learning.

The course will use a regional approach but emphasise specific organ systems and “finish” specific organ systems over a finite time span. The concept of an organ system as various organs collaborating to perform a common function, the constant balancing of basic concepts of body compartments, regional spatial organisation of organ systems, multiple levels of structural organisation, and the anatomical and basic physiological bases for physical diagnosis and radiological diagnosis is a major integrating goal for the course. Early in the course there will be a basic understanding of the structure and function of the cardiovascular system, peripheral nervous system, and general concepts of the central nervous system. These systems will be developed and integrated throughout the course (as they are throughout the body). In histology, students will identify the basic tissues that comprise any given organ and the cells that comprise each tissue. Based on observations of cellular and tissue specialisations within an organ, students will be able to deduce the functional specialisation of an organ.

2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs [#]	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	Apply a conceptual framework that includes systems organization, positional relationships, body compartments, developmental history, imaging findings and information retrieval in order to demonstrate an understanding of the animal body for different species including cats, dogs, pigs, ruminants, horses, birds and fish as well as marine and freshwater organisms of commercial value.		✓		
2.	Demonstrate at gross, microscopic and ultrastructural levels, an understanding of relationships in organ systems, tissues, cells and cellular organelles in order to show how an animal is arranged as a functional whole.		✓		
3.	Explain the developmental history leading to an organ system's adult form and identify major developmental differences that occur between the organ systems of different animal species.		✓		
4.	Outline the path of substances in the body from their point of origin to their target organ(s) and their return or excretion route, e.g. blood, lymph, ingesta, inhaled air, secretions and excretions in order to demonstrate an understanding of how organ systems communicate.		✓		
5.	Within a body region, identify organs, their gross features and relationships in three spatial planes and for different animal species, using anatomic specimens, virtual models, digital radiographs, computed tomographic and magnetic		✓		

	resonance imaging images.				
6.	Correlate gross and microscopic anatomy and relate the microscopic/ultrastructural appearance to cellular function.		✓		
7.	Identify, on histological sections, the four basic tissues (epithelial, muscle, connective, nervous) that comprise an organ.		✓		
8.	Explain how modifications of tissues and their cells relate to tissue function and to the function of an organ as a whole.		✓		
9.	Outline the spatial and functional relationships of an organ system within a body compartment, the arrangement of structural interfaces between body compartments, and how a body system traverses through multiple compartments, in order to demonstrate an understanding of anatomic structural organization.		✓		
10.	Describe how positional relationships in the body are maintained, and identify the connective tissue structures responsible for maintaining the position of each organ in a body region.		✓		
11.	Outline the relationship of the circulatory and nervous systems to the musculoskeletal framework in order to demonstrate an understanding of positional relationships.		✓		
12.	Draw a concept map of the peripheral nervous system including relationships to structures within a body region and autonomic control of specific organs in order to demonstrate an understanding of its anatomy and function.		✓	✓	
13.	Identify skeletal and muscular relationships of the body wall for each body region in order to explain topographical relations that may be used to locate underlying structures during routine clinical examination and interventions such as regional anaesthesia or centesis.		✓		
14.	Identify significant muscle groups in a body region and their anatomical attachments in order to explain their function.		✓		
15.	Apply an understanding of anatomy in order to explain and demonstrate the structural basis for physical examination procedures of the thorax and abdomen, neurological examination and orthopaedic examinations in the cat, dog, ruminant and horse.			✓	
16.	Explain the anatomical basis and anatomic considerations of diagnostic procedures such as biopsy, blood or fluid-sampling, common surgical approaches to body cavities and body regions, organ removal and contrast studies in imaging.		✓	✓	
* If weighting is assigned to CILOs, they should add up to 100%.		100%			
# Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.					
A1:	<i>Attitude</i> <i>Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.</i>				
A2:	<i>Ability</i> <i>Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical</i>				

	<i>thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.</i>
A3:	<i>Accomplishments Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.</i>

3. Teaching and Learning Activities (TLAs)

(TLAs designed to facilitate students' achievement of the CILOs.)

TLA	Brief Description	CILO No.																Hours/week (13 teaching weeks)
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Lectures	Systematic consideration	✓	✓	✓	✓					✓	✓	✓						4 hrs/wk
Practical classes	Dissections, histology, radiographic anatomy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			10 hrs/wk
Tutorials	Problem-based learning	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6 hrs/wk
Independent study	Addressing PBL learning issues	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓			✓		✓	36 hrs/wk

4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities [#]	CILO No.				Weighting*	Remarks
	1	2	3	4		
Continuous Assessment: <u>55%</u>						
First quarter quiz	✓	✓	✓	✓	5%	
Midterm online written exam	✓	✓	✓	✓	12.5%	
Midterm practical exam 1	✓	✓	✓	✓	12.5%	
Midterm practical exam 2	✓	✓	✓	✓	25%	
Examination: <u>45%</u> (duration: 3 hours)						
* The weightings should add up to 100%.					100%	

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C)	Failure (F)
1. First quarter quiz	Ability to name and describe the organs and tissues of the body, how they develop, and interspecies differences	Will exhibit a high level of competence in understanding, explaining, and integrating the knowledge in written format	Will exhibit a good level of competence in understanding, explaining, and integrating the knowledge in written format	Will exhibit a basic level of competence in understanding, explaining, and integrating the knowledge in written format	Will exhibit lack of competence in understanding, explaining, and integrating the knowledge in written format
2. Midterm written examination	Ability to describe the organs and tissues that would be affected in disease situations and by common surgical procedures.	Will exhibit a high level of competence in understanding, explaining, and integrating the knowledge in written format	Will exhibit a good level of competence in understanding, explaining, and integrating the knowledge in written format	Will exhibit a basic level of competence in understanding, explaining, and integrating the knowledge in written format	Will exhibit lack of competence in understanding, explaining, and integrating the knowledge in written format
3. Midterm practical examinations 1 & 2	Ability to name and describe functions of the organs that have been dissected and the tissues that have been observed	Will exhibit a high level of knowledge about the dissected and observed structures	Will exhibit a good level of knowledge about the dissected and observed structures	Will exhibit a basic level of knowledge about the dissected and observed structures	Will exhibit lack of knowledge about the dissected and observed structures

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C)	Failure (F)
4. Final Examination	Ability to name and describe the organs and tissues of the body, how they develop, and interspecies differences	Will exhibit a high level of competence in understanding, explaining, and integrating the knowledge in written format	Will exhibit a good level of competence in understanding, explaining, and integrating the knowledge in written format	Will exhibit a basic level of competence in understanding, explaining, and integrating the knowledge in written format	Will exhibit lack of competence in understanding, explaining, and integrating the knowledge in written format

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus

(An indication of the key topics of the course.)

Osteology, arthrology, myology, splanchnology, respiratory system, cardiovascular system, urinary system, reproductive system, neurology, eye, ear, sensory organs, integument.

2. Reading List

2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

1.	Singh, B. (2018) <i>Dyce, Sack and Wensing's Textbook of Veterinary Anatomy. 5th Edition.</i> Saunders (Elsevier).
2.	Evans, H.E. & De Lahunta, A. (2010). <i>Guide to the Dissection of the Dog. 7th Edition.</i> Saunders (Elsevier).
3.	Bacha, W.J. and Bacha, L.M. (2012) <i>Color Atlas of Veterinary Histology 3rd Ed.</i> Wiley-Blackwell
4.	McGeady, T.A., Quinn, P.J., FitzPatrick, E.S., Ryan, M.T., Kilroy, D., Lonergan, P. (2017). <i>Veterinary Embryology 2nd Ed.</i> Wiley-Blackwell.
5.	Hyttel, P., Sinowatz, F., and Vejlsted, M. (2010). <i>Essentials of Domestic Animal Embryology.</i> Saunders (Elsevier), Edinburgh.
6.	Young, B., O'Dowd, G., Woodford, P., Wheater, P.R. (2014) <i>Wheater's Functional Histology 6th Ed.</i> Churchill Livingstone/Elsevier (Philadelphia, PA)
7.	Thrall, D.E. (2018) <i>Textbook of Veterinary Diagnostic Radiology 7th Edition.</i> Saunders (Elsevier)
8.	Coulson, A. & Lewis, N. (2011) <i>An Atlas of Interpretative Radiographic Anatomy of the Dog and Cat 2nd Edition.</i> Wiley-Blackwell

2.2 Additional Readings

(Additional references for students to learn to expand their knowledge about the subject.)

1.	Kumar, M. (2013). <i>Clinically-oriented Anatomy of the Dog and Cat, revised edition.</i> Linus Learning, New York.
2.	Evans, H.E. & De Lahunta, A. (2013). <i>Miller's Anatomy of the Dog. 4th Edition.</i> Saunders (Elsevier).
3.	König, H. and Liebich, H.-G. (2014). <i>Veterinary Anatomy of Domestic Animals: Textbook and Colour Atlas, 6th edition.</i> Schattaver, Stuttgart
4.	Pasquini, C., Spurgeon, T., and Pasquini, S. (2007). <i>Anatomy of Domestic Animals: Systemic and Regional Approach, 11th edition.</i> Sudz Publishing, Pilot Point, Texas.