Course Syllabus

offered by Department of Veterinary Clinical Sciences
with effect from Semester A 2020/21

Part I Course Overview

Course Title:	Animal Health and Disease: Part I
Course Code:	VM4101
Course Duration:	1 semester
Credit Units:	18 credits
Level:	B4
Proposed Area: *(for GE courses only)*	☐ Arts and Humanities ☐ Study of Societies, Social and Business Organisations ☐ Science and Technology
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: *(Course Code and Title)*	Completion of all courses in Year 3 at a C grade (50%) or higher (if this shouldn't be the case, repetition needed)
Precursors: *(Course Code and Title)*	Nil
Equivalent Courses: *(Course Code and Title)*	Nil
Exclusive Courses: *(Course Code and Title)*	Nil

Part II Course Details

1. **Abstract**

Commencing with sections on Clinical Pathology and Fluid and Electrolyte Disorders, the course progresses to population medicine, internal medicine, basic surgery, anaesthesiology, radiology, cardiology, ophthalmology and dermatology as detailed below, with each speciality including relevant aspects of applied pharmacology. The number of lecture hours varies according to the specialty area. The course is presented on a systems basis, focusing on clinical examination to detect the signs of alteration in function, pathophysiology of clinical signs, and therapeutics including strategies for the diagnosis and treatment of the most important veterinary diseases. To strengthen the level of knowledge and to transfer the previously learned into practice, different laboratories including anaesthesia, basic surgery, cardiology and imaging will be offered. The course focuses on small and large animal species and also covers the most relevant areas in small ruminants, pigs, exotics, wildlife and zoo animals.

Part I

Clinical Pathology	*Fluids, Electrolytes and Acid-Base*	*Population Medicine*
Introduction to Surgery	*Diagnostic imaging*	*Cardiology*
Respiratory Tract	*Dermatology*	*Ophthalmology*
Surgical Exercises and other labs		*Anaesthesia*

This course provides a sound foundation for clinical rotations in later parts of the program. A variety of pedagogical techniques are used, including lectures, live animals, cadaver and mannequin laboratories, wet lab exercises, dry lab exercises and discussion, demonstrations, large group case discussions and auto-tutorials.

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.	Student can integrate the clinical sciences of medicine, surgery, anaesthesiology, radiology, and theriogenology with systems pathology and relevant aspects of applied pharmacology.		✓	✓	✓
2.	Student can establish a cognitive framework based on underpinning knowledge of the most important diseases of animals.		✓	✓	✓
3.	Understand and demonstrate the basic principles of aseptic surgery (RCVS); demonstrate core surgical skills including instrument handling, knot tying, and suture patterns.		✓	✓	✓

No.	Learning Outcome				
4.	Perform an ovariohysterectomy including preoperative patient evaluation and postoperative care in order to demonstrate competence in the principles of aseptic surgery and the management of patients undergoing routine surgical procedures.		✓	✓	✓
5.	Demonstrate the proper set-up, appropriate use and troubleshooting of an anesthetic machines and equipment in order to prevent complications and difficulties while handling a real patient.		✓	✓	✓
6.	Apply an understanding of the mechanisms of action that underly pain and analgesia in order to make clinical decisions to formulate analgesia plans in veterinary patients in different settings including routine surgical procedures, trauma and disease.		✓		
7.	Describe the mechanisms of action, dosage and use of common pharmacologic agents used in surgery (e. g. analgesics, antibiotics, anticoagulants, sedatives, neuromuscular blockers, induction agents, inhalation anesthetics, locoregional anesthesia) to facilitate best-practice anesthetic induction and maintenance.		✓		
8.	Compare and contrast species-specific anesthesia considerations based on their variable pharmacological responses, anatomy, temperature and lifestyles to guarantee a complication-free anesthesia.		✓		
9.	Assess the presenting history and clinical signs of patients, and apply an understanding of pathophysiological processes involved, to formulate ranked lists of differential diagnoses and best-practice strategies for the diagnosis and treatment of - Common surgical diseases of large and small animal species, including expected outcomes and complications - Common ophthalmological diseases of large and small animals, including diseases of the cornea, lens, uvea, retina, lids, lacrimal, conjunctiva, ophthalmological emergencies - Common cardiovascular diseases of large and small animals - Common dermatological conditions of large and small animal species, including pruritis, seborrhea, tumors, alopecia, fungal disease, otitis, aural surgery, ectoparasites, parasiticides Common respiratory diseases of large and small animal species affecting the upper or lower respiratory tract, respiratory emergencies; and interpret common diagnostic imaging tests.		✓	✓	✓
10.	Use radiographic, ultrasonographic and other technical tools safely and in accordance with valid regulations to avoid preventable exposure, harm and injury.		✓		
11.	Apply the basic principles of radiology and knowledge of radiographic anatomy in order to interpret radiographs including detection of common abnormalities.		✓	✓	✓

12.	Recall the indications, risks, advantages and disadvantages of the different radiological diagnostic devices for the purpose of the recognition and monitoring of ongoing disease in a patient.		✓		
13.	Demonstrate a basic understanding of epidemiologic methods, study design, validity and bias in assessing population health so as to predict risks of illness in different groups of patients.		✓		
14.	Interpret data from population health studies and results of hypothesis testing to be able to early recognize certain trends as part of the one health and disease prevention concept.		✓		
15.	Calculate and interpret sensitivity, specificity, positive predictive value, and negative predictive value in order to understand diagnostic test methods and results.		✓		

* If weighting is assigned to CILOs, they should add up to 100%.   100%

A1: Attitude
Develop and attitude of discover/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: Accomplishments
Demonstrate accomplishment of discover/innovation/creativity through producing/constructing creative works/new Artefacts, effective solutions to real-life problems or new processes.

3. Teaching and Learning Activities (TLAs)
(TLAs designed to facilitate students' achievement of the CILOs.)

TLA	Brief Description	CILO No.															Hours/week
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	(if applicable)
Lectures	Lectures will provide essential facts	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	16 hrs/wk
Laboratories	The laboratory practical sessions provide students with opportunities to understand, perform and report findings	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓				4 hrs/wk
Demonstrations (part of labs)	This allow the students to understand the practical parts of the topics covered	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓				2 hrs/wk
Case discussion	Case discussion will allow students to integrate various clinical medicine disciplines in approach to deal with diseases	✓	✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	1 hrs/wk
Autotutorials (not required; free base; supplemental material)	This allow students to have in-depth studies of various aspects of animal diseases being studied	✓	✓							✓							2 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	6	7	8		
Continuous Assessment: 33%						
Written Assignments	✓	✓	✓	✓	33%	<u>Format</u>: *2 Take Home Exam in Anaesthesia*
	CILO No.					
	1	2	3	4		
	5	6	7	8		
	9	10	11	12		
	13	14	15			
Exam: 67% (duration: 4 hours x 4)						
Final Examinations	✓	✓	✓	✓	67%	<u>Format</u>: *Multiple choice True/false Weighted choice Short answer Fill in blank Essay*
* The weightings should add up to 100%.					100%	

[#] Students must pass each examination and the continuous assessment as a whole to pass the course as a whole.
*Before undertaking surgery on live animals, students must successfully complete an OSCE to demonstrate that they understand the basic principles of aseptic surgery (RCVS) and to demonstrate that they have mastered core surgical skills including instrument handling, knot tying, and suture patterns. This is a competency assessment on a pass/fail basis and does not contribute to the marks for the course.

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-)	Adequate (C+, C)	Failure (F)
Examinations	Student can integrate the clinical sciences of medicine, surgery, anaesthesiology, radiology, and theriogenology with systems pathology and relevant aspects of applied pharmacology to establish a cognitive framework applicable to particular disease situations.	Excellent in understanding and ability to develop and explain differential diagnoses, definitive diagnoses, treatment options, and treatment plans.	Good in understanding and ability to develop and explain differential diagnoses, definitive diagnoses, treatment options, and treatment plans.	Has basic understanding and ability to develop and explain differential diagnoses, definitive diagnoses, treatment options, and treatment plans.	Weak understanding and ability to develop and explain differential diagnoses, definitive diagnoses, treatment options, and treatment plans.

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.)

   Animal health

   Disease

   Pathology

   Veterinary pharmacology

   Population medicine

   Internal medicine

   Dermatology

   Cardiology

   Ophthalmology

   Surgery

   Anaesthesiology

   Radiology

   Theriogenology

   Therapy

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.	None

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

1.	As instructed by individual lecturers