

**City University of Hong Kong  
Course Syllabus**

**offered by Department of Infectious Diseases and Public Health  
with effect from Semester B 2019/20**

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**Part I Course Overview**

**Course Title:** Animal Nutrition and Welfare

**Course Code:** VM 2103

**Course Duration:** 1 semester

**Credit Units:** 3 credits

**Level:** B2

Arts and Humanities

**Proposed Area:**  Study of Societies, Social and Business Organisations  
*(for GE courses only)*

Science and Technology

**Medium of Instruction:** English

**Medium of Assessment:** English

**Prerequisites:** Completion of Year 1 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)

The course follows on from the two courses GE Animal Ethics, Welfare and Law (Semester 1) and Animal Welfare (Semester 2). In its considerations of animal protection and welfare, it widens the scope of the considerations of animal welfare to include the relationship between nutrition and the welfare of individual animals. This course describes the roles of energy, carbohydrates, lipids, protein, macronutrients, and micronutrients in biochemical pathways. Thus it provides the scientific basis to animal nutrition enabling students to understand the metabolic origins of nutritional diseases and to apply that knowledge to the formulation of diets tailored to maximise the welfare, profitability, health, longevity, and/or athletic performance of animals. Companion animals such as dogs, cats, pocket pets, and horses; livestock such as beef cattle, dairy cattle, sheep, pigs, and poultry are all considered. The impacts of dietary deficiencies of the essential nutrients are given particular attention. Each student will undertake a diet formation exercise as part of their class assignment.

### 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 <sup>#</sup>	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	Students who have successfully completed this course will have a practical understanding of the interrelationship between nutrition and welfare. (RVC 3 – Evaluation of animals and their care: F – Husbandry and Welfare – Ensure that clients are aware of the principles of animal welfare and good husbandry practice advise on feeding and nutritional needs of animals (	30%	✓	✓	✓
2.	Students who have successfully completed this course will be able to advise on the formulation of appropriate diets for domestic animal species including dogs, cats, pigs, sheep, dairy cattle, beef cattle, horses, rabbits, and chickens. (RVC 3 – Evaluation of animals and their care: C Recognise clinical signs associated with a range of conditions and take action if animal(s) appears to be at ongoing risk due to poor nutrition; F – Husbandry and Welfare – Ensure that clients are aware of the principles of animal welfare and good husbandry practice - advise on feeding and nutritional needs of animals - advise on selection of specialist dietary requirements for nutritional deficiencies.	70%		✓	✓

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

100%

<sup>#</sup> Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

A1: Attitude

*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.*

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 discovery/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 (if applicable)
		1	2					
Lectures and Tutorials	Students will initially learn basic principles of nutrition followed by the nutritional requirements of different domestic species. Students will investigate case histories of animals exhibiting the symptoms of particular nutritional diseases. Students will learn about welfare implications of particular nutritional disease.	✓	✓					35hrs (teaching in block basis)
Laboratory practical	Working in groups, students will formulate diets for different species. Examine feed ingredients and diet formulations for large animals and		✓					4 hrs/lab x 1

### 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						
Continuous assessment: <u>50%</u>								
Mid-term test	✓	✓					40%	This exam will focus on large animal nutrition
formulation assignment	✓	✓					10%	The assignment will focus on farm animal diet formations
Examination: <u>50%</u> (duration: 2 hours)	✓	✓					50%	The final exam will incorporate the principles of general nutrition as they apply to small animals.
							100%	

\* The weightings should add up to 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. Mid-term test	Understands general principles of nutrition as they pertain to large animals. Understanding the nexus between the nutrition and the welfare of large animals . Can formulate feed for domestic farm animals.	Demonstrates a high level of understanding of nutritional needs of large animals. Knowledge and understanding of the nexus between animal nutrition and animal welfare	Demonstrates a well-developed level of knowledge nutrition as it pertains to large animals. Well-developed understanding of the nexus between animal nutrition and animal welfare.	Demonstrates a basic level of knowledge and understanding of large animal nutrition and the nexus between animal nutrition and animal welfare	Demonstrates inadequate knowledge and understanding of the nexus between animal nutrition and animal welfare
2. Formulation exercise	Formulate a diet for a specific species of farm animal that ensures all essential nutritional needs are met	Demonstrates a high level of competence in formulating diets for domestic farm animals	Demonstrates a well-developed level of competence in in formulating diets for domestic farm animals	Demonstrates a basic level of competence in in formulating diets for domestic farm animals	Demonstrates a lack of competence in in formulating diets for domestic farm animals
3. Examination	Knowledge and understanding of the nutritional requirements of small animals ; knowledge and understanding of the causes, impacts and treatments of nutritional deficiencies in these species.	Demonstrates a highly developed knowledge and understanding of small animal nutrition and welfare issues around poor nutrition	Demonstrates a well-developed knowledge and understanding of small animal nutrition and welfare issues around poor nutrition	Demonstrates a basic knowledge and understanding of small animal nutrition and welfare issues around poor nutrition	Demonstrates a lack of knowledge and understanding of small animal nutrition and welfare issues around poor nutrition

## Grading scheme

<i>Letter Grade</i>	<i>Mark Range</i>		<i>Letter Grade</i>	<i>Mark Range</i>
A+	≥96%		C+	≥58-64%
A	≥91-95%		C	≥50-57%
A-	≥86-90%		C-	45-49%
B+	≥79-85%		D	40-44%
B	≥72-78%		F	<40%
B-	≥65-71%			

### 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 livestock, companion animals, welfare, nutrition, carbohydrates, lipids, proteins, minerals, and vitamins.

#### 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.	Phillips, C.J (2016). <i>Nutrition and the welfare of farm animals</i> . Cham, Switzerland: Springer.
2.	.Selected reading material TBD and distributed online

##### 2.2 Additional Readings

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

1.	Flanders, F.B. and Gillespie, J.R. (2016). <i>Modern livestock and poultry production</i> 9th ed., Boston, MA, USA: Cengage Learning.
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