

VM2103: ANIMAL NUTRITION AND WELFARE

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Animal Nutrition and Welfare

Subject Code

VM - Jockey Club College of Veterinary Medicine and Life Sciences

Course Number

2103

Academic Unit

Infectious Diseases and Public Health (PH)

College/School

Jockey Club College of Veterinary Medicine and Life Sciences (VM)

Course Duration

One Semester

Credit Units

3

Level

B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

Completion of Year 1 courses with C grade or above

Precursors

Nil

Equivalent Courses

Nil

Exclusive Courses

Nil

Part II Course Details

Abstract

The course follows on from Animal Welfare and Ethics and Livestock Husbandry. 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 for animal nutrition enabling students to understand the metabolic origins of nutritional diseases and to apply that knowledge to the formulation of diets tailored to maximize 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 essential nutrients are given particular attention. Each student will undertake a diet formation exercise as part of their class assignment.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Demonstrate a practical understanding of the interrelationship between nutrition and animal welfare. Evaluate the impact of nutritional factors on the overall well-being and health of animals and advise clients on the principles of good husbandry practices, including the importance of providing appropriate feeding and nutritional needs for animals.	30	x	x	x
2	Justify and apply formulation of appropriate diets for a range of domestic animal species, including dogs, cats, pigs, sheep, dairy cattle, beef cattle, horses, rabbits, and chickens. Discuss the nutritional requirements and dietary needs for various animal species and recommend suitable feed and supplementation based on the specific nutritional requirements of each animal species.	35		x	x
3	Identify clinical signs associated with nutritional conditions and take appropriate action to address ongoing risks due to poor nutrition. Identify clinical signs indicative of nutritional deficiencies or imbalances and provide guidance to clients on addressing and managing nutritional issues to ensure the continued well-being and health of the animals.	35		x	x

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 real-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.

Learning and Teaching Activities (LTAs)

LTAs		Brief Description	CILO No.	Hours/week (if applicable)
1	Lectures and Tutorials	Students will initially learn the 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 the welfare implications of particular nutritional diseases.	1, 2, 3	39hrs (teaching in block basis)

Assessment Tasks / Activities (ATs)

ATs	CILO No.	Weighting (%)	Remarks ("- " for nil entry)	Allow Use of GenAI?	
1	Mid-term test	1, 2, 3	50	This exam will focus on the course content taught until midterm.	No

Continuous Assessment (%)

50

Examination (%)

50

Examination Duration (Hours)

2

Additional Information for ATs

The final exam will incorporate all aspects of nutrition that are taught, covering all animals.

Assessment Rubrics (AR)**Assessment Task**

1. Mid-term test

Criterion

Explains the general principles of nutrition as they pertain to animals. Contrast and comparison nexus between nutrition and the welfare of animals. Can formulate feed for domestic animals.

Excellent (A+, A, A-)

Demonstrates a high level of explanation of the nutritional needs of animals.
Knowledge and description of the nexus between animal nutrition and animal welfare.

Good (B+, B, B-)

Demonstrates a well-developed level of knowledge of nutrition as it pertains to animals. Well- developed understanding of the nexus between animal nutrition and animal welfare.

Fair (C+, C, C-)

Demonstrates a basic level of knowledge of animal nutrition and the nexus between animal nutrition and animal welfare. See additional information for AR regarding mark range below, as in the BVM programme only C+ and C grades are awarded.

Marginal (D)

Not applicable for the BVM programme.

Failure (F)

Demonstrates inadequate knowledge and explanation of the nexus between animal nutrition and animal welfare.

Assessment Task

2. Formulation exercise assignment

Criterion

Formulate a diet for a specific species animal species that ensures all essential nutritional needs are met.

Excellent (A+, A, A-)

Demonstrates a high level of competence in formulating diets for animals.

Good (B+, B, B-)

Demonstrates a well-developed level of competence in formulating diets for animals.

Fair (C+, C, C-)

Demonstrates a basic level of competence in formulating diets for animals. See additional information for AR regarding mark range below, as in the BVM programme only C+ and C grades are awarded.

Marginal (D)

Not applicable for the BVM programme.

Failure (F)

Demonstrates a lack of competence in formulating diets for animals.

Assessment Task

3. Examination

Criterion

Knowledge and application of the nutritional requirements of animals.

Knowledge and analyses of the causes, impacts and treatments of nutritional deficiencies in various species.

Excellent (A+, A, A-)

Demonstrates a highly developed knowledge and explanation of animal nutrition and welfare issues around poor nutrition.

Good (B+, B, B-)

Demonstrates a well-developed knowledge and analysis of animal nutrition and welfare issues around poor nutrition.

Fair (C+, C, C-)

Demonstrates a basic knowledge and overview of animal nutrition and welfare issues around poor nutrition. See additional information for AR regarding mark range below, as in the BVM programme only C+ and C grades are awarded.

Marginal (D)

Not applicable for the BVM programme.

Failure (F)

Demonstrates a lack of knowledge of animal nutrition and welfare issues around poor nutrition.

Additional Information for AR**Mark Range**

The following is the mark range for each letter grade that must be used for assessment of courses offered by the PH and VCS Department of JCC (including Gateway Education (GE) courses):

Letter Grade	Mark Range	Letter Grade	Mark Range
A+	≥92%	C+	54-60.99%
A	87-91.99%	C	50-53.99%
A-	82-86.99%	F	<50%
B+	75-81.99%		
B	68-74.99%		
B-	61-67.99%		

** A penalty of 5% of the total marks for the assessment task will be deducted per working day for late submissions, and no marks will be awarded for submissions more than 10 working days late.

Part III Other Information**Keyword Syllabus**

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

Reading List**Compulsory Readings**

Title	
1	Phillips, C.J (2016). Nutrition and the welfare of farm animals. Cham, Switzerland: Springer.
2	Selected reading material TBD and distributed online

Additional Readings

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