

VM2103: ANIMAL NUTRITION AND WELFARE

Effective Term

Semester B 2022/23

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 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 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 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	x	x	x
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 the selection of specialist dietary requirements for nutritional deficiencies.	70		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.

Teaching and Learning Activities (TLAs)

	TLAs	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	35hrs (teaching in block basis)
2	Laboratory practical	Working in groups, students will formulate diets for different species. Examine feed ingredients and diet formulations for large animals and companion animals.	2	4 hrs/lab x 1

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Mid-term test	1, 2	40	This exam will focus on farm animal nutrition.
2	Formulation assignment	1, 2	10	The assignment will focus on animal diet formations.

Continuous Assessment (%)

50

Examination (%)

50

Examination Duration (Hours)

2

Additional Information for ATs

The final exam will incorporate the principles of general nutrition as they apply to small animals.

Assessment Rubrics (AR)**Assessment Task**

1. Mid-term test

Criterion

Understands general principles of nutrition as they pertain to farm animals. Understanding nexus between nutrition and the welfare of farm animals. Can formulate feed for domestic farm animals.

Excellent (A+, A, A-)

Demonstrates a high level of understanding of the nutritional needs of farm animals.
Knowledge and understanding 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 large animals. Well- developed understanding of the nexus between animal nutrition and animal welfare.

Fair (C+, C, C-)

Demonstrates a basic level of knowledge and understanding of farm animal nutrition and the nexus between animal nutrition and animal welfare.

Failure (F)

Demonstrates inadequate knowledge and understanding 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 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.

Failure (F)

Demonstrates a lack of competence in formulating diets for animals.

Assessment Task

3. Examination

Criterion

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.

Excellent (A+, A, A-)

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

Good (B+, B, B-)

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

Fair (C+, C, C-)

Demonstrates a basic knowledge and understanding of small animal nutrition and welfare issues around poor nutrition.

Failure (F)

Demonstrates a lack of knowledge and understanding of small 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+	≥85%	C+	55-59.99%
A	80-84.99%	C	50-54.99%
A-	75-79.99%	F	<50%
B+	70-74.99%		
B	65-69.99%		
B-	60-64.99%		

** 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.