VM3004: EVIDENCE BASED VETERINARY MEDICINE

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Evidence Based Veterinary Medicine

Subject Code
VM - Jockey Club College of Veterinary Medicine and Life Sciences
Course Number
3004

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 all Year 1 courses with a C grade or above

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

This course is intended to promote evidence-based approach in veterinary medicine practice and critical appraisal of scientific literature to support clinical activities and decision making. Basic skills in the critical assessment of clinical literature will be taught, including systematic search of scientific literature, the basic principles of study design, and critically assessing and applying information from the literature to answer clinical questions. Students will practice the theoretical concepts by conducting critical appraisal of journal articles, as well as answering a PICO (Patient/problem, Intervention/exposure, Comparison/control, Outcome) question using a systematic review strategy and preparing a knowledge summary. By the end of the course, students will be able to critically appraise scientific literature, and apply an evidence-based approach in answering clinical questions.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Describe a structured approach to evidence-based veterinary medicine		x		
2	Explain the basic concepts of study design and critical appraisal of research studies (this includes framing clinical questions, hypothesis building, study design, sampling populations, quantifying diseases and associations, bias analysis, and diagnostic interpretations)		x	x	
3	Discuss the scientific research methods and the hierarchy of evidence in the critical appraisal of the literature			x	
4	Apply the principles of evidence-based veterinary medicine in addressing specific clinical problems or questions				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	Students will engage in formal lectures to gain knowledge about the topics, including in-class problem-solving tasks	1, 2	24 hours in total

2	Tutorials	Students will engage in tutorial activities (journal club discussions) to deepen their topic matter knowledge, including critical appraisal of the literature and study design	3, 4	15 hours in total

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Reports	3	25	Each student will participate in the appraisal and interactive discussions on multiple research papers	Yes
2	Midterm Examination	1, 2	50	Each student will take an examination (summary assessment)	No
3	Group assignment	3, 4	25	Students will work in groups to answer a PICO question by synthesizing a knowledge summary	Yes

Continuous Assessment (%)

100

Examination (%)

0

Additional Information for ATs

** 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.

Assessment Rubrics (AR)

Assessment Task

1. Reports

Criterion

Students are able to appraise literature systematically and discuss their methods and appraisal with their peers

Excellent (A+, A, A-)

Display high competence in evaluating scientific and professional literature

Good (B+, B, B-)

Display good competence in evaluating scientific and professional literature

Fair (C+, C, C-)

Display basic competence in evaluating scientific and professional literature; 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)

Display a lack of competence in evaluating scientific and professional literature

---

Assessment Task

2. Midterm Examination

Criterion

Students are able to describe the systematic approach of EBVM and explain the general concepts in study design, critical appraisal of literature, sampling, measuring diseases and associations, evaluation of diagnostic tests, and bias.

Excellent (A+, A, A-)

Students achieve an 86% or greater on the examination of the class and laboratory material

Good (B+, B, B-)

Students achieve a 65% or greater on the examination of the class and laboratory material

Fair (C+, C, C-)

Students achieve a 50% or greater on the examination of the class and laboratory material. (C letter grade is at least 50% or greater); 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)

Students achieve less than 50% on the examination of the class and laboratory material

---

Assessment Task

3. Group assignment

Criterion

Students are able to critically appraise literature related to a clinical question (PICO) and draft a scientifically justified answer to that question in the form of a knowledge summary.

Excellent (A+, A, A-)

Displays a high degree of competence for producing a scientifically-based response to a clinical PICO question

Good (B+, B, B-)

Displays a good degree of competence for producing a scientifically-based response to a clinical PICO question

Fair (C+, C, C-)

Displays basic competence for producing a scientifically-based response to a clinical PICO question; 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)
Failure to produce a scientifically-based response to a clinical PICO question

---

Additional Information for AR

Conversion table from percentage mark to letter grade for VM3004

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%		

Part III Other Information

Keyword Syllabus
Evidence-based veterinary medicine, Clinical research, Epidemiology, Study design, Critical appraisal of scientific literature

Reading List

Compulsory Readings

	Title
1	Mark Holmes & Peter Cockcroft (2003). The Handbook of Evidence-Based Veterinary Medicine. Blackwell Publishing.
2	Dirk Pfeiffer (2010). Veterinary Epidemiology: An Introduction. Wiley-Blackwell.

Additional Readings

	Title
1	http://knowledge.rcvs.org.uk/evidence-based-veterinary-medicine/ebvm-toolkit/
2	http://www.ebvmlearning.org/acquire/where-to-find-the-evidence/other-sources-of-information/
3	Ian Dohoo, Wayne Martin, Henrik Stryhn (2009). Veterinary Epidemiologic Research. 2nd Edition, VER Inc.
4	Richard B. Evans & Annette O' Connor. Statistics and Evidence-Based Veterinary Medicine: Answers to 21 Common Statistical Questions That Arise from Reading Scientific Manuscripts. Vet Clin Small Anim 37 (2007) 477-486, doi:10.1016/j.cvsm.2007.01.006
5	Veterinary Clinics of North America: Small Animal Practice, Volume 37, Issue 3, Pages 409-616 (May 2007), Evidence-Based Veterinary Medicine, Edited by Peggy L. Schmidt, http://www.sciencedirect.com/science/journal/01955616/37/3