

VM3004: EVIDENCE BASED VETERINARY MEDICINE

Effective Term

Semester A 2024/25

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 Year 1 and Semester A of Year 2

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 DEC-A1 DEC-A2 DEC-A3 app.)			
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
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Assessment Tasks / Activities (ATs)

ATs		CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Reports	3	25	Each student will participate in the appraisal and interactive discussions on multiple research papers
2	Midterm Examination	1, 2	50	
3	Group assignment	3, 4	25	Students will work in groups to answer a PICO question by synthesizing a knowledge summary

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

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)

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

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