

# VCS5006: EVIDENCE-BASED MEDICINE

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## Effective Term

Semester A 2026/27

## Part I Course Overview

### Course Title

Evidence-Based Medicine

### Subject Code

VCS - Veterinary Clinical Sciences

### Course Number

5006

### Academic Unit

Veterinary Clinical Sciences (VCS)

### College/School

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

### Course Duration

One Semester

### Credit Units

3

### Level

P5, P6 - Postgraduate Degree

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

Nil

### Precursors

Nil

### Equivalent Courses

Nil

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

This course aims to strengthen the application of evidence-based principles in veterinary clinical practice by developing students' ability to critically evaluate scientific literature. Participants will gain foundational skills in assessing clinical

studies, including how to conduct structured literature searches, understand the basics of research design, and effectively interpret and utilize published findings to inform clinical decisions. Throughout the course, students will engage in hands-on activities such as reviewing journal articles, applying the PICO framework (Patient/Problem, Intervention/Exposure, Comparison/Control, Outcome) to explore clinical questions, and applying evidence-based principles in small animal clinical practice. They will also learn to synthesize information in the form of a knowledge summary. By the end of the course, students will be equipped to approach clinical decision-making through a critical and evidence-informed lens.

### Course Intended Learning Outcomes (CILOs)

| CILOs |                                                                                                                                                                                                                                                                                  | Weighting (if app.) | DEC-A1 | DEC-A2 | DEC-A3 |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------|--------|--------|
| 1     | Describe a structural 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      | 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 | Students will engage in formal lectures to gain knowledge about the topics, including in-class problem-solving tasks. | 1, 2     | 9 hours in total           |

|   |           |                                                                                                                                                                                                                   |         |                   |
|---|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------|
| 2 | Tutorials | Students will engage in tutorial activities (journal club and case discussions on how to integrate EBVM) to deepen their topic matter knowledge, including critical appraisal of the literature and study design. | 1, 3, 4 | 30 hours in total |
|---|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------|

**Assessment Tasks / Activities (ATs)**

| ATs |                      | CILO No. | Weighting (%) | Remarks ("- " for nil entry)                                                                                                                                               | Allow Use of GenAI? |
|-----|----------------------|----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| 1   | Mid-term Examination | 1, 2     | 50            | Each student will take an examination (summary assessment)                                                                                                                 | No                  |
| 2   | Participation        | 3, 4     | 25            | Each student will participate in journal club and interactive discussions on multiple research papers and case management.                                                 | No                  |
| 3   | Presentation         | 3, 4     | 25            | Students will work in groups to answer a PICO question or a clinical question supported by EBVM and synthesize a knowledge summary, they will then present their findings. | No                  |

**Continuous Assessment (%)**

100

**Assessment Rubrics (AR)****Assessment Task**

Participation

**Criterion**

Students are able to appraise literature systematically, articulate their reasoning, and actively participate in discussions with peers using EBVM principles.

**Excellent (A+, A, A-)**

High competence in evaluating scientific and professional literature and actively contributing to peer discussion. The student consistently engages in discussions, applies EBVM appraisal frameworks accurately, and provides insightful, well-reasoned comments supported by high-quality evidence.

**Good (B+, B, B-)**

Good competence in evaluating scientific and professional literature and participating in discussion.

The student participates regularly, uses EBVM concepts appropriately, and provides sound appraisal and contributions that are generally well supported by evidence.

**Fair (C+, C, C-)**

Basic competence in evaluating scientific and professional literature with limited participation.

The student shows basic understanding of EBVM appraisal steps and contributes occasionally. Appraisal may lack depth or consistent evidence support.

**Marginal (D)**

Minimal competence in evaluating scientific and professional literature and limited engagement.

The student rarely contributes, and their appraisals show minimal understanding of EBVM principles, with frequent gaps in reasoning or evidence use.

**Failure (F)**

No participation/ absence.

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**Assessment Task**

Mid-term 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.

**Marginal (D)**

Students achieve a 40% or greater on the examination of the class and laboratory material.

**Failure (F)**

Students achieve less than 40% on the examination of the class and laboratory material.

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**Assessment Task**

Presentations

**Criterion**

Students are able to critically appraise literature related to a clinical question (PICO) and present their findings in a scientifically justified 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.

**Marginal (D)**

Displays minimal 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.

## Part III Other Information

### Keyword Syllabus

Evidence-based veterinary medicine

Clinical research

Epidemiology

Study design

Critical appraisal of scientific literature

Application and integration of EBVM in clinical practice

### Reading List

#### Compulsory Readings

| Title |     |
|-------|-----|
| 1     | Nil |

#### Additional Readings

| Title |     |
|-------|-----|
| 1     | Nil |