

VM4401: RESEARCH PROJECT

Effective Term

Semester A 2024/25

Part I Course Overview

Course Title

Research Project

Subject Code

VM - Jockey Club College of Veterinary Medicine and Life Sciences

Course Number

4401

Academic Unit

Veterinary Clinical Sciences (VCS)

College/School

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

Course Duration

Two Semesters

Credit Units

0-6

Level

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

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

Completion of Year 4 courses with C grade or above

Precursors

Nil

Equivalent Courses

Nil

Exclusive Courses

Nil

Part II Course Details

Abstract

The study of veterinary science requires an understanding of the basic principles of academic research and this course will provide an opportunity to conduct real-life research on a topic of interest to the student.

In this course the student will systematically investigate a topic to test a hypothesis under the guidance of a research advisor and peers under independent review. The project will culminate in preparation of a manuscript in the style of an appropriate scientific journal. Narrative literature reviews are not acceptable.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if DEC-A1 app.)		DEC-A2	DEC-A3
1	Develop a hypothesis and objectives for an original body of research. Propose the methodology to be used to investigate the research hypothesis, considering ethical frameworks, appropriate sample sizes and statistical analyses.		x		x
2	Explain, observe and comply with institutional guidelines and frameworks for ethical research.		x	x	
3	Collect, organise and analyse complex information in relation to specific problems, assessing its validity and reaching probabilistic judgements			x	x
4	Use your research findings to formulate a draft manuscript, and develop, modify and refine it through the peer review process.				x
5	Workshop scientific problems with peers and supervisors and communicate research questions, findings and conclusions to specialist and non-specialist audiences		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	Through lectures, students will engage with key theories about the conduct of scientific research, planning, and presentation as they relate to the research project.	1, 2, 3, 4, 5	13 hours total - 9 hours in Semester A, 4 hours in early Semester B

2	Presentations	Students will develop a presentation of their research proposal and communicate the main ideas to a scientific audience	1, 2, 5	15 min per student
3	Presentations	Students will develop a presentation of their research proposal and communicate the main ideas to a scientific audience	2, 5	15 min per student
4	Research	Students will conduct research either as part of a dry or wet lab, or in the field, and will analyse the collected data to develop results and conclusions.	2, 3, 4, 5	3 hrs/wk for 10 weeks in Semester A
5	Research	Students will conduct research either as part of a dry or wet lab, or in the field, and will analyse the collected data to develop results and conclusions.	2, 3, 4, 5	5 hrs/wk for 6 weeks in Semester B

Assessment Tasks / Activities (ATs)

ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Research proposal	1, 2, 3, 4, 5	10
2	Literature review	1, 3, 4, 5	25
3	Oral presentation of proposal	1, 2, 3, 4, 5	10
4	Manuscript	1, 2, 3, 4, 5	40
5	Final presentation	1, 2, 3, 4, 5	15

Continuous Assessment (%)

100

Examination (%)

0

Additional Information for ATs

Notes regarding continuous assessment:

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**

Research Proposal (incl. Methodology and Budget)

Criterion

Ability to formulate a competent research proposal with logical hypothesis and objectives

Excellent (A+, A, A-)

Extremely competent research proposal with logical hypothesis and objectives

Good (B+, B, B-)

Highly competent research proposal with logical hypothesis and objectives that may need minimal adjustments to make them obtainable.

Fair (C+, C, C-)

Competent research proposal that has a basic hypothesis and objectives, but needs moderate adjustments to make them obtainable.

Failure (F)

Research proposal that lacks in competency with a poorly formed or articulated hypothesis or objectives.

Assessment Task

Literature Review

Criterion

Students display their ability to research the background of the study appropriately

Excellent (A+, A, A-)

Extremely competent use of the scientific literature to guide and shape the proposed research.

Good (B+, B, B-)

Highly competent use of the scientific literature to guide and shape the proposed research, may need minimal improvement in background research or in adequately communicating the main ideas of the literature review.

Fair (C+, C, C-)

Competent use of the scientific literature to guide and shape the proposed research, generally needs moderate improvement in background research or in adequately communicating the main ideas of the literature review.

Failure (F)

Use of the scientific literature lacking in competence to guide and shape the proposed research

Assessment Task

Oral presentation of proposal

Criterion

Ability to communicate a research problem in the context of background knowledge to peers and public

Excellent (A+, A, A-)

Extremely well conducted public presentation of a research problem in the context of background knowledge to peers and public

Good (B+, B, B-)

Well conducted public presentation of a research problem in the context of background knowledge to peers and public

Fair (C+, C, C-)

Competently conducted public presentation of a research problem in the context of background knowledge to peers and public

Failure (F)

Public presentation of a research problem in the context of background knowledge to peers and public conducted with lacking competency

Assessment Task

Manuscript

Criterion

Ability to present research findings to scientific community

Excellent (A+, A, A-)

Extremely well presented scientific manuscript

Good (B+, B, B-)

Well presented scientific manuscript but minimal lacking in communication or understanding of some scientific concepts.

Fair (C+, C, C-)

Competently presented scientific manuscript with moderate errors communication or reduced understanding of some scientific concepts.

Failure (F)

Scientific manuscript presented lacking basic competency, either in the understanding of the scientific concepts or in the communication of those concepts.

Assessment Task

Final presentation

Criterion

Ability to present research findings to peers and public

Excellent (A+, A, A-)

Extremely well conducted public presentation of research project

Good (B+, B, B-)

Well conducted public presentation of research project

Fair (C+, C, C-)

Competently conducted public presentation of research project

Failure (F)

Public presentation of research project conducted with lacking competency

Additional Information for AR

Mark Range

The following is the mark range for each letter grade that must be used for assessment of any examinations or course work of BVM courses (VM- and GE-coded) offered by PH and VCS.

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

Part III Other Information

Keyword Syllabus

Clinical research, research skills, conduct, competency, publication, presentation

Reading List

Compulsory Readings

Title	
1	Mark Holmes & Peter Cockcroft (2008). Handbook of Veterinary Clinical Research. Blackwell Publishing.
2	Mark Holmes & Peter Cockcroft (2003). The Handbook of Evidence-Based Veterinary Medicine. Blackwell Publishing.
3	Dirk Pfeiffer (2010). Veterinary Epidemiology: An Introduction. Wiley-Blackwell.
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

Additional Readings

Title	
1	http://knowledge.rcvs.org.uk/evidence-based-veterinary-medicine/ebvm-toolkit/
2	http://www.ebvmllearning.org/acquire/where-to-find-the-evidence/other-sources-of-information/
3	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