

VM4115: EQUINE MEDICINE AND SURGERY

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Equine Medicine and Surgery

Subject Code

VM - Jockey Club College of Veterinary Medicine and Life Sciences

Course Number

4115

Academic Unit

Veterinary Clinical Sciences (VCS)

College/School

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

Course Duration

One Semester

Credit Units

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

This course offers a comprehensive overview of equine practice, covering preventive medicine, internal medicine, basic surgery, orthopedics, anaesthesia, radiology, cardiology, ophthalmology, and dermatology in the horse. The distribution

of instructional hours is based on the frequency with which these case types present in equine caseloads within mixed practice settings. The primary focus is on the diagnosis and management of common equine diseases encountered in first-opinion practice, ensuring students achieve day one competencies.

Students will also be introduced to the fundamentals of referral-level practice, learning how and when to refer cases for specialist investigation or treatment. Practical skills development is central to the course, utilizing a combination of dry labs, mannequins, models, cadavers, and live horses. Sessions with live animals will highlight the importance of safe and effective horse handling in all veterinary procedures.

A key innovation of this course is the integration of artificial intelligence (AI) and technology-enhanced learning. Students will engage with AI-generated clinical case scenarios and simulated consultations, developing critical thinking and problem-solving skills in a realistic, supportive environment. Team-based learning (TBL) will be embedded throughout the course, enabling students to collaborate on clinical cases, practice decision-making, and strengthen their teamwork abilities. Interactive videos and other digital resources will enrich the learning experience, catering to a variety of learning preferences.

Assessment will be primarily formative, with students submitting clinical case assignments weekly or biweekly in place of traditional summative exams. This continuous assessment approach provides regular feedback, promoting deeper learning and ongoing skills development.

A diverse range of teaching methods, including lectures, group discussions, live animal sessions, mannequin and cadaver labs, wet and dry lab exercises, demonstrations, and auto-tutorials, ensures a dynamic and hands-on learning environment. This course provides a robust foundation for clinical rotations and further study in equine practice.

Course Intended Learning Outcomes (CILOs)

CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Take and interpret an appropriate patient history and integrate this with physical examination findings in order to formulate ranked lists of differential diagnoses and best-practice strategies for the diagnosis and treatment of disease in equines.		x	x
2	Describe and design preventative and population health plans including breeding management, vaccination and antiparasitic protocols appropriate to the population and geographic location.	x		x
3	Select and interpret commonly used diagnostic techniques used in equine practice including haematology, biochemistry, cytology, radiology, ultrasound, histopathology. Select where advanced diagnostic tests may be indicated i.e. electrocardiography, echocardiography, nuclear scintigraphy, MRI, CT and dynamic endoscopy.		x	x
4	Demonstrate how to safely and appropriately use portable radiographic equipment (limited to the distal limb and head) and interpret common radiographic findings in order to diagnose disease. Explain when radiography is appropriate for use in other regions of the body.		x	x
5	Use an ultrasound scanner and interpret ultrasonographic images of the distal limb (palmar metacarpal region). Explain when ultrasonography is an appropriate treatment modality for other regions of the body.		x	x

6	Develop treatment and management protocols for common equine diseases and conditions, including selecting and justifying appropriate drugs for the management of common diseases and conditions.		x	x	
7	Describe and perform basic equine practical techniques such as basic surgery, wound management, basic dentistry and diagnostic analgesia. Identify potential complications and plan how to avoid these.			x	x
8	Develop appropriate management strategies for equine emergencies such as colic, ocular emergencies, wounds, and fractures and discuss treatment options including referral and when appropriate, euthanasia.		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 receive foundational knowledge through interactive components such as real-time quizzes and student discussions to enhance engagement and ensure understanding.	1, 2, 3, 4, 5, 6, 7, 8	42 hours in total
2	Tutorials	Students will be involved in group discussions and problem-solving of clinical cases. These sessions will focus on ethical decision-making, empathy, financial constraints, legislation, collegiality, and case referral, helping students apply lecture knowledge in practical scenarios.	1, 2, 3, 4, 5, 6, 7, 8	7 hours in total

3	Self-learning*	Students will receive structured study plans with specific learning outcomes. Students will use online materials and complete preparatory assignments before practical sessions, fostering a deeper understanding and independent study skills.	1, 2, 3, 4, 5, 6, 7, 8	12 hours in total
4	Practical classes*	Students will focus on developing hands-on skills through simulations, use of mannequins, and live animals. These sessions are designed to ensure students gain proficiency in day-one competencies. Self-assessment and peer feedback will be integral components to enhance learning outcomes.	1, 2, 3, 4, 5, 6, 7, 8	17 hours in total

Additional Information for LTAs

Course Structure for Self-learning/Practical lessons and Attendance Policy:

The course is structured around two compulsory components: self-learning sessions and practical lessons. **Both components are mandatory** for all students.

- **Self-learning sessions:** Each practical lesson is preceded by a self-learning session. Students are required to thoroughly review the provided materials (delivered via the online Articulate course) **before attending the practical**.
- **Practical lessons:** Practical classes are designed for students to apply the knowledge gained during their self-learning sessions. Demonstrations will not be conducted; instead, students will actively engage in hands-on activities, with academic staff available to answer questions and provide clarification.

Attendance Policy

- Students are permitted to miss **no more than one practical lesson per semester**.
- Absence from additional sessions will result in automatic failure of the course.
- All absences must be justified with an official medical certificate or other appropriate documentation. Unjustified absences will be considered unexcused and result in course failure.
- Missed practical lessons **cannot** be made up under any circumstances, including excused absences.
- Unexcused or unjustified absences do not entitle students to any make-up or alternative arrangements.

This structure ensures students are fully prepared for each practical session and fosters a responsible and professional approach to learning.

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("- for nil entry)	Allow Use of GenAI?
1	Continuous assessment submissions	1, 2, 3, 4, 5, 6, 7, 8	35	-	Yes

2	Written Examination (2 hrs)	1, 2, 3, 4, 5, 6, 7, 8	0	35%	No
3	OSCE assessment	1, 2, 3, 6, 7, 8	10	-	No
4	Practical lessons report	1, 2, 3, 4, 5, 6, 7, 8	10	-	Yes
5	Team-based learning	1, 2, 3, 4, 5, 6, 7, 8	10	-	Yes

Continuous Assessment (%)

65

Examination (%)

35

Examination Duration (Hours)

2

Additional Information for ATs**1. Continuous Assignment Submissions – Additional Information**

Students will be required to complete and submit weekly or biweekly open-book assignments as part of the continuous assessment component. As a veterinary student, you are expected to be motivated, self-directed, and responsible for organizing your own time, to ensure that all assessment deadlines and course requirements are met.

Assignment Requirements

To successfully pass this course, students must achieve:

- A **passing score of at least 70%** across all assessment components combined.
- A **minimum score of 50%** in each individual assessment component.

Failure to meet the minimum passing score in any single assessment, or to achieve the required overall score, will result in failure of the course, regardless of performance in other components.

Late Submission Policy:

- Any assignment submitted after the stated deadline will incur a penalty of 5% of the total available mark per working day, up to a maximum of five working days. The mark will not be reduced below the pass mark for the assessment.
- Work received more than five working days after the submission deadline will be awarded a mark of zero.
- Students experiencing extenuating circumstances (e.g., medical or other exceptional grounds) are entitled to request exemption from late penalties for coursework with the opportunity for late submission. Supporting documentation (such as a medical certificate) is required for consideration.
- Requests for exemption from late penalties will only be granted for a maximum extension of one week. Coursework submitted after this period will be treated as a non-submission.

It is your responsibility to communicate promptly with course staff if you encounter exceptional circumstances that may impact your ability to meet deadlines.

2. Written Examination – Additional Information

To pass the written examination, students must achieve a minimum overall passing score of **50%** on the exam. Achieving less than 50% will result in a failing grade for the written examination component, regardless of performance in other assessment tasks.

3. OSCE Assessment – Additional Information

To pass the OSCE assessment, students must achieve a minimum overall passing score of **50%**. A score below 50% will result in a failing grade for the OSCE component, regardless of performance in other assessment tasks.

A failing grade in the Practical Examination (OSCEs) will lead to an overall F grade for the entire course.

4. Practical Lessons Report – Additional Information

For five practical lessons (they will be announced at the beginning of the course), students are required to submit a report of not less than 500 words and not more than 1000 words. Reports may be submitted in various formats, including skill sheet, video, written, or other free formats as approved by the instructor.

Each practical lesson report must be submitted within 48h of completing the practical session.

To pass this assessment component, students must achieve a **minimum passing score of 70%** in each practical report submission. Failure to meet this minimum standard will result in a failing grade for the practical report component, regardless of performance in other assessments.

Late submissions will not be accepted and will result in failure of the overall practical report component.

5. Team-Based Learning (TBL) – Additional Information

The Team-Based Learning assessment consists of three components: an individual quiz exam, a group quiz exam, and a group case scenario with discussion. Participation in all components is required.

To pass this assessment component, students must achieve a **minimum overall passing score of 70%** across the combined TBL activities. Failure to meet this minimum standard will result in a failing grade for the TBL component, regardless of performance in other assessments.

Overall Course Pass Requirement

To successfully pass this course, students must achieve a passing score in **each individual assessment component** as specified above. Failure to achieve the minimum passing requirement in any assessment component will result in failure of the entire course, regardless of the overall average or performance in other components.

Assessment Rubrics (AR)

Assessment Task

Continuous Assessment Submissions

Criterion

Student demonstrates the ability to analyze, interpret, and solve clinical case scenarios using appropriate clinical reasoning, diagnostic strategies, and evidence-based decision making. Applies knowledge from lectures, self-learning, and practical experiences to case discussions.

Excellent (A+, A, A-)

Thorough, accurate, and insightful analysis of cases. Demonstrates excellent integration and application of knowledge with strong justification for decisions. Consistently uses clinical reasoning and supports answers with relevant evidence.

Good (B+, B, B-)

Good analysis of cases. Integrates and applies knowledge appropriately. Reasoning is mostly clear and justified, with relevant evidence provided. Minor errors or omissions may be present.

Fair (C+, C, C-)

(For C+, C) Has basic understanding and ability to develop and explain differential diagnoses, definitive diagnoses, treatment options, and treatment plans.

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)

Inadequate knowledge or inability to analyze or solve cases. Reasoning is absent or inappropriate, with little or no evidence provided.

Assessment Task

OSCE Assessment

Criterion

Demonstrates safety and competency in practical skills manner.

Excellent (A+, A, A-)

Excellent execution of task with few or no errors. No safety concerns.

Good (B+, B, B-)

Good execution of task, with some minor permissible errors. No safety concerns.

Fair (C+, C, C-)

(For C+, C) Adequate execution of task, but with more significant errors. No safety concerns. 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)

Fails to demonstrate appropriate level of competency in practical procedures or completes procedures in an unsafe manner.

Assessment Task

Practical Lessons Report

Criterion

Student documents practical activities and reflects on learning outcomes. Reports are clear, well-organized, and supported by relevant evidence.

Excellent (A+, A, A-)

Comprehensive, well-organized, and insightful report. Provides detailed reflection and strong supporting evidence. Clear, professional presentation.

Good (B+, B, B-)

Good report, generally well-organized. Reflection and evidence are appropriate, though some areas may lack detail.

Fair (C+, C, C-)

(For C+, C) Adequate report, but may lack depth or organization. Reflection and evidence are present but limited. 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)

Report is missing, extremely limited, or shows no understanding of the practical activities.

Assessment Task

Team-Based Learning

Criterion

Student participates in team-based learning activities, including quizzes, group discussions, and case analysis. Contributes to group problem-solving and demonstrates collaborative skills.

Excellent (A+, A, A-)

Actively participates and contributes original ideas. Demonstrates excellent teamwork, critical thinking, and leadership. Consistently supports and collaborates with peers.

Good (B+, B, B-)

Participates well in group activities, shares relevant ideas, and supports team decisions. Demonstrates good collaborative and critical thinking skills.

Fair (C+, C, C-)

(For C+, C) Participates in team activities but with limited input or engagement. Contribution is adequate but not consistent.

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)

Fails to participate or contribute to team-based activities. Hinders group progress or demonstrates negative teamwork behaviors.

Assessment Task

Written Examination

Criterion

Student demonstrates understanding and application of course knowledge across clinical sciences and related disciplines. Answers reflect clinical relevance, integration, and reasoning.

Excellent (A+, A, A-)

Excellent integration and application of knowledge. Comprehensively addresses questions, demonstrates clinical reasoning, and evaluates solutions.

Good (B+, B, B-)

Good integration and application of knowledge. Discusses questions with clinical relevance and explains solutions.

Fair (C+, C, C-)

(For C+, C) Has basic understanding and ability to develop and explain differential diagnoses, definitive diagnoses, treatment options, and treatment plans.

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)

Inadequate knowledge with little or no ability to answer questions or apply to clinical scenarios.

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 coursework 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**

Equine
Horse
Donkey
Animal health
Disease
Pathology
Veterinary pharmacology
Population medicine
Internal medicine
Dermatology
Cardiology
Respiratory
Gastrointestinal
Orthopaedic
Dentistry
Ophthalmology
Surgery
Anaesthesiology
Radiology
Theriogenology
Therapy

Reading List**Compulsory Readings**

Title	
1	Nil

Additional Readings

Title	
1	Equine Veterinary Education - articles
2	AAEP proceedings – HOW TO sessions