

Module code: MOD010993	Version: 1 Date Amended: 05/Nov/2025
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1. Module Title
Equine Health, Disease and Pain Mechanisms

2a. Module Leader
Romain Paillot

2b. School
Writtle School of Agriculture, Animal and Environmental Sciences

2c. Faculty
Faculty of Science and Engineering

3a. Level
5

3b. Module Type
Standard (fine graded)

4a. Credits
15

4b. Study Hours
150

5. Restrictions			
Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	BSc Equine Therapy, Rehabilitation and Performance, BSc Animal Therapy, rehabilitation and performance, BSc Canine Therapy rehabilitation and performance. IMSc Veterinary Physiotherapy, Canine and Equine.		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description
In this module, you'll be introduced to the main principles of pathophysiology with a specific emphasis on equine health. You'll explore the mechanisms involved in the immune response in horses and examine how microorganisms cause pathological processes in equids. You'll also cover how mechanical tissue injury in horses can lead to local and potentially systemic inflammation. You'll discuss key concepts in preventative medicine for horses, pharmacokinetics and pharmacodynamics, with a focus on understanding the factors that influence the efficacy and application of pharmacological agents in equine care. Key topics include pain management, mechanisms of action and strategies for addressing pain in horses. You'll learn how health issues affect horses in various environments, including stabling, turnout and during performance or training. Through analysing a range of academic research papers focused on equine health, you'll deepen your understanding of real-world issues faced by horses in different settings. The assessment will encourage you to conduct in-depth research on a specific equine health topic, allowing you to further develop your analytical, evaluative, and technical skills as well as your knowledge in equine health management.

6b. Outline Content

IMMUNITY:

Natural defences, adaptive and innate immunity in horses, vaccination protocols, and clinical conditions affecting equids

INFECTIOUS and NON-INFECTIOUS DISEASES:

Definitions of health and disease in horses, categorisation of equine diseases and disorders, including tissue healing processes in horses. Prevention and control measures specific to equine health, including biosecurity and management practices

DISEASE ORGANISMS:

Causative agents of equine diseases, including bacterial, viral, fungal, and parasitic organisms. Effects on equine health, toxin-related diseases, and the role of parasitology, bacteriology, and virology in equine practice.

PHARMACOLOGY:

Drug action in horses, including mechanisms of administration, absorption, distribution, metabolism, and excretion of pharmaceuticals in equines. Use of common medications in equine practice, such as analgesics, antibiotics, and anti-inflammatory drugs.

PAIN AND PAIN MANAGEMENT:

Pain pathways in horses, multimodal analgesia, complementary pain management techniques, and specific challenges in managing pain in equines (e.g., in lameness, colic, or post-surgical recovery).

How effective pain management can attribute to improving equine welfare.

SIGNS OF HEALTH:

Indicators of good health and early signs of illness in horses, including visual assessments, behaviour changes, and physical examination techniques specific to equids. While considering the impact of poor health on welfare.

STAGES OF HEALING:

for musculoskeletal structures bone, tendons and ligaments

6c. Key Texts/Literature

The reading list to support this module is available at: <https://readinglists.aru.ac.uk/>

6d. Specialist Learning Resources

Equine facilities, Laboratory and Lab equipment (e.g. Microscopes).

7. Learning Outcomes (threshold standards)

No.	Type	On successful completion of this module the student will be expected to be able to:
1	Knowledge and Understanding	Classifying equine diseases, their impact, and methods of prevention, control, and treatment are vital for effective health and welfare management
2	Knowledge and Understanding	Analyse the methods of disease prevention, control and treatment
3	Intellectual, practical, affective and transferrable skills	Understand Pain pathways and processes and compare different methods of pain management.

8a. Module Occurrence to which this MDF Refers				
Year	Occurrence	Period	Location	Mode of Delivery
2026/7	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	Hours	Learning Outcomes	Details of Duration, frequency and other comments
Lectures	36	1-3	Formal Scheduled Teaching - Lectures
Other teacher managed learning	0	None	None
Student managed learning	114	1-3	Self-directed learning, background reading and study for formative and summative assessments
TOTAL:	150		

9. Assessment for the above Module Occurrence					
The assessment for some modules includes a presentation (see below for details on how this particular module is assessed). We recognise that presenting, especially to a large group, can cause significant anxiety or distress for some students. If this may affect you, please contact your Module Leader or the Disability and Neurodiversity Service as early as possible. We will work with you to consider appropriate reasonable adjustments. Depending on your individual needs, these might include, for example, presenting to a smaller group or presenting only to a member of academic staff.					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Coursework	2,4	40 (%)	Fine Grade	30 (%)
Coursework: MCQ in class test					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Coursework	1,3,5	60 (%)	Fine Grade	30 (%)
Coursework: 1500 word article					

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:

- (a) achieve the qualifying mark for each element of fine graded assessment as specified above**
- (b) pass any pass/fail elements**

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]