

Module code: MOD011013	Version: 1 Date Amended: 12/Nov/2025
-------------------------------	--

1. Module Title
Integrative Approaches to Equine Exercise Physiology

2a. Module Leader
Susan Mooney

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

2c. Faculty
Faculty of Science and Engineering

3a. Level
6

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 sports therapy and rehabilitation, BSc Animal Therapy, rehabilitation and performance, BSc Canine Therapy rehabilitation and performance. MVetphys Veterinary Physiotherapy, Canine and Equine		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description
This module develops an understanding of the scientific principles behind physical training and the physiological factors affecting athletic performance for various equine sporting and performance disciplines, as well as in considering baseline and post-rehabilitation fitness. In this module, you'll study the horse's physiological responses to exercise as well as the adaptations that occur as a result of long-term physical training. This includes looking in detail at responses of the individual body systems as well as the equine athlete as a whole. You'll cover methods of both training and performance testing, analysing the efficacy of specific training techniques, both from a performance enhancement point of view, and with regards to preventing fatigue and injury development. You'll also explore a range of ethical training methods that should be used to ensure professional and welfare practices are maintained. You'll critically engage with current scientific literature and recent advances in equine performance preparation, enabling you to apply the latest research to real-world training scenarios. Plus, an awareness of the impact of external factors will be developed, focusing predominantly on exercise and training in different climate conditions and thermoregulatory issues.
6b. Outline Content
Content in this module is focused on the body systems responses to training and the adaptive changes that occur in response to different training methods. The following key areas will be explored through the module. • Energy partitioning and use of fuel stores • Muscle fibres and energy pathways – again linked to fuel stores • Cardiovascular system, Musculoskeletal system and Respiratory exercise responses and long-term training adaptations • Consider how each system contributes to positive enhancements and negative limitations of athletic performance. • Understanding the physiological and nutritional demands of disciplines to underpin the rationale for training programs • Feeding for exercise and performance • Ethical and sustainability influences on training methods employed • Developing training programs for specific disciplines • Initial training/fitness – post-rehab / young animals etc. • Use of technology in performance enhancement and evaluation – focus mainly on HR monitors but also on blood lactate analysis • Exercise in challenging climates – heat, hydration, electrolytes, managing these factors • The development of fatigue and injury / breakdown...overtraining vs progressive overload...training principles to promote longevity

6c. Key Texts/Literature

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

6d. Specialist Learning Resources

Heart rate monitors and training equipment.

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	Critically evaluate a range of equine training methods and interventions to improve physical performance and prevent development of fatigue and injury
2	Knowledge and Understanding	Examine the acute physiological responses of the cardiovascular, respiratory and musculoskeletal systems to equine exercise and explain how these systems adapt to physical training in the long term
3	Knowledge and Understanding	Assess the impact of the external environment on equine training and performance and appraise the physiological and metabolic limitations it may cause
4	Intellectual, practical, affective and transferrable skills	Apply an awareness of analytical procedures and technology relevant to equine exercise and performance testing to ensure sustainability.

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	30	1-4	10 weeks of theory lectures
Other teacher managed learning	6	1-4	1 week of practical session 1 week of revision workshop / formative
Student managed learning	114	1-4	Self-directed study and reading
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	1,2,4	75 (%)	Fine Grade	30 (%)

Coursework: Training Plan for a specific discipline / OR for a post rehab re-training programme 2000 word

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Practical	3	25 (%)	Fine Grade	30 (%)

Practical: Group presentation. Scenario based on training methods. 15mins

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]