Module Definition Form (MDF)

Module code: MOD010962	**Version:** 1 **Date Amended:** 07/Mar/2025

1. Module Title
Foundations of Equine Science

2a. Module Leader
Charlotte Coleman-Fry

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

2c. Faculty
Faculty of Science and Engineering

3a. Level
4

3b. Module Type
Standard (fine graded)

4a. Credits
30

4b. Study Hours
300

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 Science and BSc Equine Business Management		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

This module introduces you to the key scientific principles that underpin equine health, behaviour and nutrition, all grounded in a solid understanding of anatomy and physiology. You'll begin by exploring how the horse's body is structured and how its anatomy supports key physiological functions. This includes in-depth study of the skeletal, muscular, digestive, respiratory, cardiovascular, and nervous systems. By examining the form and function of these systems, you'll begin to understand how horses move, eat, respond to their environment, and maintain health. We'll link theory with practice through hands-on activities, including dissections, to deepen your understanding of structure-function relationships and to connect physiological processes with practical application.

You'll also be introduced to current research and scientific approaches to equine management. By learning how to interpret and apply scientific literature, you'll begin to develop the analytical skills necessary for evaluating equine health and welfare practices. You'll look at what drives equine behaviour, how diet affects performance and wellbeing, and what it really means to manage equine health holistically. By understanding how all these areas interact, you'll gain a complete picture of how to care for and manage horses based on scientific evidence.

This module is all about building a strong foundation in equine science so you're ready to apply this knowledge throughout your studies, make informed decisions about equine management and helping to prepare you for a future in the equine industry.

6b. Outline Content

- Biological systems to include: circulatory and lymphatic systems, respiratory system, reproductive system, excretory/urinary system, endocrine system, nervous system and brain, digestive system, musculoskeletal system, integumentary system.
- Hormones and homeostasis
- Behavioural needs of the horse
- Sensory perception
- Nutrition basics (rules of feeding, what's digested where, etc) linked in with the gut dissection
- Health: basic first aid and lameness linked to leg dissection
- Common ailments, reacting and responding to (as opposed to understanding)
- Practicals: Including a variety of lab skills, dissections (e.g., gut, heart and lungs, lower limb, reproductive system and kidneys, eye dissection), and other hands-on activities to develop practical competencies and anatomical understanding.

6c. Key Texts/Literature

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

6d. Specialist Learning Resources

Yard resource, lab resource with dissection materials, classroom access.

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	Evidence a comprehensive understanding of equine anatomy and physiology, including major organ systems and their functions.
2	Knowledge and Understanding	Demonstrate awareness of the behavioural needs of the horse and how these may impact health and welfare.
3	Intellectual, practical, affective and transferrable skills	Apply basic principles of equine health management, including disease prevention and the assessment of factors that influence overall health and wellbeing.
4	Knowledge and Understanding	Understand the scientific principles underlying equine biological systems and their application to the study of health, disease, and anatomy through practical and theoretical approaches.
5	Knowledge and Understanding	Illustrate knowledge of the fundamental principles of equine nutrition, including the digestion and metabolism of nutrients, and how these relate to maintaining health and performance.

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	42	1-5	Lectures and tutorials/workshops
Other teacher managed learning	30	1-5	Practical sessions and dissections
Student managed learning	228	1-5	Self-directed learning
TOTAL:	300		

9. Assessment for the above Module Occurrence					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
010	Practical	2,3,4,5	60 (%)	Fine Grade	30 (%)
Multiple assessment options: viva / presentation / podcast / webcast					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
011	Coursework	1	40 (%)	Fine Grade	30 (%)
8 in class tests x 30 minutes (best 4 contribute to grade)					

Assessment components for Element 011			
Component No.	**Assessment Title**	**Submission Method**	**Components needed for Mark Calculation?**
011/1	Class Based Test		Best 4 out of 8. All components used in calculation are equally weighted
011/2	Class Based Test		
011/3	Class Based Test		
011/4	Class Based Test		
011/5	Class Based Test		
011/6	Class Based Test		
011/7	Class Based Test		
011/8	Class Based Test		

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]