Module Definition Form (MDF)

Module code: MOD011236	**Version:** 1 **Date Amended:** 07/Mar/2025

1. Module Title
Structure and Functional Assessment

2a. Module Leader
Rosemary Lawrence

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		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

This module offers you a thorough exploration of equine anatomy and how it relates to performance. Through a mix of lectures, hands-on practical sessions, dissections, and discussion-based learning, you'll build a strong understanding of how a horse's structure supports its movement and function.

You'll learn how to carry out both static (standing) and dynamic (in-motion) assessments to monitor equine health and performance effectively. With a focus on understanding how anatomical structure supports function across biological systems, this module will provide you with the insights into the suitability of different equestrian disciplines.

The module will also introduce foundational knowledge of the axial and appendicular skeleton, joint structure and function, tendon and ligament anatomy and the nervous system. Behaviour and welfare considerations, including emotional state and pain indicators, will be integrated throughout to promote a holistic and ethical approach to equine assessment.

By the end of this module, you'll have a solid foundation in equine health and functional anatomy, knowledge that is essential to anyone preparing for professional roles within the industry.

6b. Outline Content

- STATIC ASSESSMENT – conformation; posture; signs of health; muscle balance; discipline specific conformation; assessment for discipline suitability; hoof balance; shod vs barefoot; remedial farriery
- DYNAMIC ASSESSMENT – performance; lameness identification; gait analysis; gait analysis in relation to foot balance; gait abnormalities; way of going; different surfaces; muscle activation during the stride; objective and subjective measures; basics of biomechanics; understanding movement and identify potential adaptions to improve performance
- PALPATION – bony landmarks; soft tissue palpation; 4T's (pain, heat, different tissue textures); distal limb; muscle layers; muscle names; origins and insertions; muscle functions (in relation to posture/movement/part of stride)
- BEHAVIOUR & WELFARE – emotional states; physical and behavioural signs of pain and discomfort
- AXIAL AND APPENDICULAR SKELETON – skeleton; bones
- JOINT STRUCTURE AND FUNCTION – joint structures; joint classifications; joint function
- TENDONS AND LIGAMENTS – structure and functions; injuries/healing
- MUSCULOSKELETAL DYSFUNCTIONS – injuries/healing
- NERVOUS SYSTEM – motor/sensory system; brachial and lumbosacral plexus; muscle innervations; nerve damage – link to muscles; part of brain responsible for movement

6c. Key Texts/Literature

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

6d. Specialist Learning Resources

Equestrian facilities

Lab resources: Anatomical models, equine skeleton and bones

7. Learning Outcomes (threshold standards)		
No.	**Type**	**On successful completion of this module the student will be expected to be able to:**
1	Intellectual, practical, affective and transferrable skills	Understand and apply effective methods for evaluating horses in both static and dynamic situations.
2	Intellectual, practical, affective and transferrable skills	Comprehend how structure and function relate to performance and health of the horse.
3	Knowledge and Understanding	Awareness of horse suitability for a variety of equestrian disciplines and how this may impact their soundness and performance.
4	Knowledge and Understanding	Demonstrate a detailed knowledge of the musculoskeletal system, including bony structure and joint function.
5	Knowledge and Understanding	Explain the relationship between the different biological systems and identify the impact of their dysfunctions on the performance of the horse.

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	1-5	Lectures each week.
Other teacher managed learning	36	1-5	Practical sessions each week
Student managed learning	228	1-5	Self-directed study.
TOTAL:	300		

9. Assessment for the above Module Occurrence					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
010	Examination	4,5	50 (%)	Fine Grade	30 (%)
Exam 2 hours, closed-book					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
011	Coursework	1-3	50 (%)	Fine Grade	30 (%)
2000-word report					

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]