

Module code: MOD011207	Version: 1 Date Amended: 17/Jun/2025
-------------------------------	--

1. Module Title
Natural Resources Management

2a. Module Leader
Wasantha Ruvini Ranasingha Hetti

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:	None		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

In this module, you'll gain an in-depth exploration of sustainable strategies for managing critical resources such as land, water, biodiversity, and energy - especially in the face of growing environmental challenges. By blending your theoretical knowledge along with practical application, this module focuses on ecosystem-based management, adaptive resource planning, and the integration of advanced digital tools for monitoring and conserving resources. You'll critically assess the socio-economic and ecological dimensions of resource use, considering the impacts of climate change, population growth, and industrial agriculture. Through interdisciplinary approaches and real-world case studies, this module will help you develop innovative, sustainable solutions for managing natural resources on local, regional, and global scales, equipping you to lead in environmental stewardship, conservation, and resource policy.

You'll also apply the field skills you've built in previous years by designing and delivering a project that addresses a real-world environmental issue. An emphasis will be placed on teamwork, effective project management, professional conduct, and the application of industry-standard field techniques. Furthermore, the module provides essential insights into quality standards in project design, implementation, evaluation, and dissemination of project outcomes.

6b. Outline Content

Introduction to Natural Resource Management: Focuses on foundational concepts in agriculture and horticulture, highlighting the importance of natural resource management (NRM) for food security, climate resilience, and sustainable system-based approaches.

Contemporary Issues in Natural Resource Management: Examines challenges such as pollution, resource depletion, and socio-economic inequalities in resource management. It also discusses global issues like climate change and biodiversity loss, offering potential solutions.

Biodiversity and Ecosystem Balance: Covers strategies to manage invasive species, pathogens, and biodiversity in agriculture and horticulture. It explores promoting biodiversity and overcoming barriers to sustainable practices in both sectors.

Policies and Economic Aspects of Natural Resource Management: Provides an overview of national and international policies influencing agriculture and horticulture. It discusses market incentives, ethical issues like equity and land rights, and the impacts of policies on sustainable practices.

Sustainable Resource Management: Focuses on principles for sustainable development and ecosystem management. This includes problem-solving frameworks for ecological restoration and sustainable agriculture, supported by case studies and field-based learning.

Energy and Water Resource Management: Covers sustainable energy practices in agriculture, including renewable energy integration, energy audits, and efficiency in farming systems. It also addresses water management strategies, irrigation, conservation, and the impact of climate change on water resources.

6c. Key Texts/Literature

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

6d. Specialist Learning Resources

None

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	Demonstrate a solid understanding of how environmental factors (e.g., soil health, water, climate) affect plant growth and development
2	Knowledge and Understanding	Evaluate how agricultural practices and human interventions can disrupt natural cycles and ecological systems.
3	Intellectual, practical, affective and transferrable skills	Create strategies for efficient resource use, including water conservation, soil health management, and energy efficiency, in horticultural systems.
4	Intellectual, practical, affective and transferrable skills	Analyse case studies and propose actionable solutions for pollution control, waste management, and ecosystem restoration in horticulture.

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	Lectures/seminars – Flexible series of lectures or seminar style discussions to develop the ideas and themes within the module. Seminar content based upon set reading and research topics.
Other teacher managed learning	6	1-4	Assignment-based workshops and presentations
Student managed learning	114	1-4	Background reading, study for seminar preparation and final examination. A mixture of set readings and individual research on set topics. Examination is an open book assessment that requires the preparation of material (by the student) in advance.
TOTAL:	150		

9. Assessment for the above Module Occurrence					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Practical	1-2	50 (%)	Fine Grade	30 (%)
10 minutes Individual PowerPoint Presentation focused on a specific environmental or sustainability issue at the ARU Writtle estate					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Coursework	3-4	50 (%)	Fine Grade	30 (%)
1500 Individual Report evaluating and strategising one of the key thematic areas of environmental sustainability on the ARU Writtle estate					

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]					
--	--	--	--	--	--