

Module code: MOD011227	Version: 1 Date Amended: 17/Jun/2025
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1. Module Title
Leading Sustainable Change Strategies and Innovations in Food Systems

2a. Module Leader
Christos Gerofotis

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

2c. Faculty
Faculty of Science and Engineering

3a. Level
7

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:	MBA in Agribusiness		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

The majority of our food systems today are unsustainable as their productivity relies mainly on “fossil” resources that we exploit at the cost of future generations. At the same time those food systems that are sustainable still face a high risk of collapsing in the near future due to the pace of change in various environmental and socio-economic levels. Global, national and local food systems are extremely complex, and dynamic, evolving over time. They need to adapt to those emerging challenges and transition from one type to another by adopting and integrating innovative practices at any stage of the food supply chain and frequently customising those practices to regional settings to achieve maximum benefits for society, environment and the food sector. In this module, you'll examine the global drivers of change in food systems and will build on future predictions to propose resilient strategic solutions to the most important challenges food systems are facing and are predicted to face in the future. The root causes of food system failures, including the areas that make food systems vulnerable (e.g. climate change, consumer trends, etc.) will be analysed. Life cycle thinking methods and complex systems approaches to understand the complexity of food systems and their value to decision-making when combined with the technological advances of our era will also be developed. An emphasis will be given on specific and recent technological innovations that promote sustainable farming systems, waste management, balance energy inputs, and end-to-end traceability, ultimately acting as driving forces in food system transformation. Innovative concepts beyond technology, in policy and community driven frameworks, that focus more on consumption and ethical values (instead of production) operating as accelerators of food system transformation will also be merited. New forms of food systems-like lab-grown alternative proteins and circular feeds, under the concept of urban agriculture will also be analysed in the context of research orientated innovations. This module will enable you to develop your critical and analytical thinking in agri-food systems. You'll learn to integrate knowledge from various and different disciplines to understand how food systems are shaped and make sound and critical judgments on the sustainability of food systems. You'll learn to dissect and analyse the sustainability of food systems at all levels, covering the whole, from production to consumption, and evaluate the potential of various innovative approaches and concepts for various settings (national, global). You'll learn to analyse and synthesise knowledge from multiple resources to structure and propose context-based solutions to real-life problems, considering costs and benefits of each decision. You'll have the opportunity to develop a unique insight on the future of food systems and their strategic management.

6b. Outline Content

Global drivers in food systems (economic, societal and environmental factors)

Food system threats and challenges

Approaches to understand the complexity of food systems (linear models, circular food system models, complex system approaches that capture trade-offs and synergies in food systems)

Transforming food systems (identifying which elements of food systems have to be transformed through case studies, failures in food systems, food safety)

Strategic approaches and innovative methods to transform food systems; (cellular agriculture, digital agriculture, urban food systems, circular feeds, food data and analytics, blockchain, technological innovations in production and in supply chain, social and political process, resource use efficiency, etc.)

The future of food systems (agriculture and food systems in short term and long-term predictions, and nutrition policy systems).

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 sophisticated understanding of the environmental and socio-economic factors, and how their interactions shape food systems to critically assess global and local environmental and socio-economic drivers of change.
2	Knowledge and Understanding	Assess the sustainability of the various levels in food systems and appraise the threats and vulnerabilities in the framework of current social logic and the standard economic model.
3	Intellectual, practical, affective and transferrable skills	Identify and propose solutions to the real-world challenges that food sustainability presents to develop theoretical models for circular economics and regenerative business entrepreneurship that transitions towards sustainable food systems.

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	3 hours per week of flexible learning consisting of lectures, workshops and tutorials which can be delivered in blocks.
Other teacher managed learning	8	1-3	Tutor directed formative work towards summative
Student managed learning	118	1-3	Independent study
TOTAL:	162		

9. Assessment for the above Module Occurrence					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Practical	1	40 (%)	Fine Grade	40 (%)
Presentation (10-12 minutes) followed by 2-3 questions					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Coursework	2-3	60 (%)	Fine Grade	40 (%)
Coursework (2000 words)					

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]
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