Module Specification

Sustainable Food Production

Version: 2023-24, v3.0, 31 May 2023

Contents

Part 1: Information

Module title: Sustainable Food Production

Module code: USSKNB-15-3

Level: Level 6

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Delivery locations: Not in use for Modules

Field: Applied Sciences

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: This module will provide you with the fundamental knowledge you need to help humanity confront one its most urgent environmental challenges –

meeting the food demands of humans for the rest of the 21st century, and beyond, without causing intolerable environmental damage.

Outline syllabus: The approach taken will focus on; a) the sustainable use of key natural resources, b) anthropogenic environmental changes that endanger food production, and c) key environmental impacts of global food production. The module will enable you to understand why current food production systems are breaching planetary boundaries and what has to be done to remedy this.

You will cover:

Natural Resources: food production and the global freshwater crisis; impending ‘peak P’ and closing the P gap; nitrogen use and ‘fertilising the Earth to death’.

Environmental Change: agriculture and the ‘salinity crisis’; food production and global warming; food production and the acidification of the Earth;

Environmental Impact: agrochemicals and the poisoning of the biosphere; food production and the mass extinction of biodiversity.

Feeding within our means: what is necessary for Sustainable Food Production and how to reduce food wastage.

Part 3: Teaching and learning methods

Teaching and learning methods: Your learning on the module will be supported by podcasts for each topic, an online image gallery of key food and forage crops for each topic, an extensive set of bespoke figures/diagrams for each topic, a set of recent key review articles and two site visits to illustrate current challenges in sustainable agriculture and horticulture. Each topic will be dealt with using seminar sessions based on prior reading and there will be two interactive workshop sessions.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Understand key aspects of the global dynamics of natural resource use that underpin food production.

MO2 Synthesize knowledge of anthropogenic changes in the environment with that of the limits to food production.

MO3 Understand how key pollutants affect the quantity and quality of food produced in agricultural systems

MO4 Interpret data of the type used to study food production systems.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/ussknb-15-3.html

Part 4: Assessment

Assessment strategy: Assessment task A.
Online exam with a 24 hour window for submission. This assessment will provide students with an opportunity to demonstrate in depth knowledge on the module subject matter, with the expectation that students will be required to show evidence of critical analysis.

Assessment task B.
Scientific Report. Students will generate data as part of a practical investigation in to the effectiveness of crop pest management and discuss the wider implications of their findings.

The results analysis required in their scientific report will help students to develop the

skills necessary to interpret the type of data underpinning debate about the sustainability of food production systems and provide them with insights necessary for engaging with debates surrounding the key module topics. This will help them acquire the fundamental knowledge listed as learning outcomes. The programmes widely use probabilistic statistics and students need opportunities to practice using their statistical and data interpretations skills on real biological issues.

One of the workshop activities will be an exercise to develop an understanding of the key concepts of the assessment criteria within an interactive environment. Some pieces of dummy coursework will be marked by students. This exercise will carry no marks but will highlight to students the skills that the module seeks to develop and how to self-assess whether they have been developed or not.

Assessment components:

Examination (Online) (First Sit)
Description: Online Exam (24 hour submission window)
Weighting: 50 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Written Assignment (First Sit)
Description: Scientific Report (2000 words)
Weighting: 50 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO4

Examination (Online) (Resit)
Description: Online Exam (24 hour submission window)
Weighting: 50 %
Final assessment: Yes
Group work: No

Learning outcomes tested: MO1, MO2, MO3

Written Assignment (Resit)
Description: Scientific Report (2000 words)
Weighting: 50 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Environmental Science [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22

Biological Sciences [Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22

Wildlife Ecology and Conservation Science [Sep][FT][Frenchay][4yrs] MSci 2021-22

Environmental Science [Sep][FT][Frenchay][4yrs] MSci 2021-22

Biological Sciences [Sep][FT][Frenchay][4yrs] MSci 2021-22

Wildlife Ecology and Conservation Science [Sep][FT][Zoo][3yrs] BSc (Hons) 2021-22

Biological Sciences [Sep][SW][Frenchay][4yrs] BSc (Hons) 2020-21

Biological Sciences [Sep][SW][Frenchay][5yrs] MSci 2020-21

Wildlife Ecology and Conservation Science {Foundation} [Sep][FT][Zoo][4yrs] BSc (Hons) 2020-21

Wildlife Ecology and Conservation Science [Sep][SW][Frenchay][5yrs] MSci 2020-21

Environmental Science [Sep][SW][Frenchay][4yrs] BSc (Hons) 2020-21

Environmental Science {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2020-21

Wildlife Ecology and Conservation Science {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2020-21

Environmental Science {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2020-21

Environmental Science [Sep][SW][Frenchay][5yrs] MSci 2020-21

Biological Sciences {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2020-21

Wildlife Ecology and Conservation Science [Sep][SW][Zoo][4yrs] BSc (Hons) 2020-21

Biological Sciences {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2020-21

Wildlife Ecology and Conservation Science {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2019-20

Biological Sciences {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20

Biological Sciences {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2019-20

Environmental Science {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2019-20

Environmental Science {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2019-20

Wildlife Ecology and Conservation Science {Foundation} [Sep][SW][Zoo][5yrs] BSc (Hons) 2019-20