



MODULE SPECIFICATION

| Part 1: Information | | | |
|---------------------------|--|--------------------|------------------|
| Module Title | Sustainable Food Production | | |
| Module Code | USSKNB-15-3 | Level | 3 |
| For implementation from | September 2017 | | |
| UWE Credit Rating | 15 | ECTS Credit Rating | |
| Faculty | HAS | Field | Applied Sciences |
| Department | | | |
| Contributes towards | BSc (Hons) Environmental Science, BSc (Hons) Biological Sciences, BSc (Hons) Wildlife Ecology & Conservation Science. MSci Environmental Science, | | |
| Module type: | Standard | | |
| Pre-requisites | None | | |
| Excluded Combinations | None | | |
| Co- requisites | None | | |
| Module Entry requirements | None | | |

| Part 2: Description |
|---|
| <p>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.</p> <p>The approach taken will focus on; a) the sustainable use of key <i>natural resources</i>, b) anthropogenic <i>environmental changes</i> that endanger food production, and c) key <i>environmental impacts</i> 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.</p> <p>You will cover:</p> <ol style="list-style-type: none"> 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. <p>Your learning on the module will be supported by podcasts for each topic, a set of online MCQs for each topic, an</p> |

online image gallery of key food and forage crops for each topic, an extensive set of bespoke (often animated) figures/diagrams for each topic, a dedicated textbook. Each topic will be dealt with using seminar sessions based on prior reading and there will be two interactive workshop sessions.

Part 3: Assessment

Component A

The controlled component is a written exam. 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.

Component B.

Data Interpretation Exercise. The data of a key current paper on one of the topics dealt with in the module will be used to set a series of short questions and calculations focusing on data interpretation. This will enable 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 all the topics. This will help them with the fundamental knowledge listed as learning outcomes. Environmental Science uses probabilistic statistics very significantly and students need opportunities to practice using their statistical and data interpretations skills on real environmental issues.

One of the workshop exercises will be entitled 'marking your own coursework', which 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.

Two hour written exam. Choice of two questions from four.

Identify final timetabled piece of assessment (component and element)

A1

% weighting between components A and B (Standard modules only)

A:

60

B:

40

First Sit

Component A (controlled conditions)
Description of each element

Element weighting

1. Written Exam (2h).

100%

2.

Component B
Description of each element

Element weighting

1. Data Interpretation Exercise.

100%

2.

Resit (further attendance at taught classes is not required)

Component A (controlled conditions)
Description of each element




Element weighting

1. Written Exam (2h)

100%

Component B
Description of each element

Element weighting

| 1. Data Interpretation Exercise. | 100% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Part 4: Teaching and Learning Methods | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Learning Outcomes | <p>On successful completion of this module students will be able to:</p> <ul style="list-style-type: none"> • understand key aspects of the global dynamics of natural resource use that underpin food production. (Component A and B) • synthesize knowledge of anthropogenic changes in the environment with that of the limits to food production. (Component A) • understand how key pollutants affect the quantity and quality of food produced in agricultural systems. (Component A) • statistically manipulate data of the type used to study food production systems. (Component B). • discuss the science underpinning global food security. (Component A) • comprehend the environment impact of food production (Component A) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Key Information Sets Information (KIS) | <table border="1" data-bbox="496 902 1450 1274"> <thead> <tr> <th colspan="5" data-bbox="496 902 1034 943"><u>Key Information Set - Module data</u></th> </tr> </thead> <tbody> <tr> <td colspan="5" data-bbox="496 943 1450 985"></td> </tr> <tr> <td colspan="4" data-bbox="496 985 1166 1028"><i>Number of credits for this module</i></td> <td data-bbox="1166 985 1450 1028" style="text-align: center;">15</td> </tr> <tr> <td colspan="5" data-bbox="496 1028 1450 1070"></td> </tr> <tr> <th data-bbox="496 1070 639 1196">Hours to be allocated</th> <th data-bbox="639 1070 812 1196">Scheduled learning and teaching</th> <th data-bbox="812 1070 994 1196">Independent study hours</th> <th data-bbox="994 1070 1166 1196">Placement study hours</th> <th data-bbox="1166 1070 1450 1196">Allocated Hours</th> <td data-bbox="1353 1189 1398 1229" style="text-align: center;"></td> </tr> <tr> <td data-bbox="496 1196 639 1238" style="text-align: center;">150</td> <td data-bbox="639 1196 812 1238" style="text-align: center;">36</td> <td data-bbox="812 1196 994 1238" style="text-align: center;">114</td> <td data-bbox="994 1196 1166 1238" style="text-align: center;">0</td> <td data-bbox="1166 1196 1450 1238" style="text-align: center;">150</td> <td></td> </tr> </tbody> </table> <p data-bbox="432 1308 1437 1370">The table below indicates as a percentage the total assessment of the module which constitutes a;</p> <p data-bbox="432 1402 679 1491"> Written Exam: 60% Coursework: 40% Practical Exam: N/A </p> <table border="1" data-bbox="616 1554 1337 1798"> <thead> <tr> <th colspan="2" data-bbox="616 1554 1050 1597">Total assessment of the module:</th> </tr> </thead> <tbody> <tr> <td data-bbox="616 1597 1050 1639">Written exam assessment percentage</td> <td data-bbox="1050 1597 1337 1639" style="text-align: center;">60%</td> </tr> <tr> <td data-bbox="616 1639 1050 1682">Coursework assessment percentage</td> <td data-bbox="1050 1639 1337 1682" style="text-align: center;">40%</td> </tr> <tr> <td data-bbox="616 1682 1050 1724">Practical exam assessment percentage</td> <td data-bbox="1050 1682 1337 1724"></td> </tr> <tr> <td data-bbox="616 1724 1050 1767"></td> <td data-bbox="1050 1724 1337 1767" style="text-align: center;">100%</td> </tr> </tbody> </table> | <u>Key Information Set - Module data</u> | | | | | | | | | | <i>Number of credits for this module</i> | | | | 15 | | | | | | Hours to be allocated | Scheduled learning and teaching | Independent study hours | Placement study hours | Allocated Hours |  | 150 | 36 | 114 | 0 | 150 | | Total assessment of the module: | | Written exam assessment percentage | 60% | Coursework assessment percentage | 40% | Practical exam assessment percentage | | | 100% |
| <u>Key Information Set - Module data</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Hours to be allocated | Scheduled learning and teaching | Independent study hours | Placement study hours | Allocated Hours |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | 36 | 114 | 0 | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total assessment of the module: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Written exam assessment percentage | 60% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coursework assessment percentage | 40% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Practical exam assessment percentage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 100% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reading List | <p data-bbox="432 1899 1453 1928">https://uwe.rl.talis.com/users/955DE9B2-44CE-40CC-164C-E05E4CFD16E9/lists.html</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| First CAP Approval Date | 31/5/2017 | | | |
| Revision CAP Approval Date <i>Update this row each time a change goes to CAP</i> | | Version | 1 | RIA 12112 |