HARTPURY
UNIVERSITY CENTRE

Module Specification

Part 1: Basic Data						
Module Title	Agricultural Technologies					
Module Code	UILV7A-15-2		Level	2	Version	1
Credit Rating	15	ECTS Credit Rating	7.5	WBL module?	No	
Owning Faculty	Hartpury		Field	Animal and Land		
Department	Agriculture		Module Type	Standard		
Contributes towards	BSc (Hons) Applied Agriculture BSc (Hons) Applied Agriculture (SW) BSc (Hons) Applied Agriculture (Livestock Production) BSc (Hons) Applied Agriculture (Livestock Production) (SW) BSc (Hons) Applied Agriculture (Crop Production) BSc (Hons) Applied Agriculture (Crop Production) (SW) BSc (Hons) Applied Agriculture (International) BSc (Hons) Applied Agriculture (International) (SW)					
Pre-requisites	None		Co- requisites	None		
Excluded Combinations	None		Module Entry requirements	None		
Last Major Approval Date	19 January 2017		Valid from	1 September 2017		
Amendment Approval Date			Revised with effect from			
Review Due By	1 September 2023					

Part 2: Learning and Teaching	
Learning Outcomes	On successful completion of this module students will be able to: 1. Evaluate the application of technology in land management, livestock production and agronomy. (A) 2. Critique agricultural technologies available and their relationship/s with sustainable agriculture and environmental protection. (A) 3. Analyse the use of computer software and data generated, and how it contributes to agricultural management decisions and precision farming. (A) 4. Assess the costs and benefits of new technologies and techniques to a farm business. (A)
Syllabus Outline	This module aims to introduce students to the role of technology within modern agriculture, including: • Precision farming: methods and theories of technology relating to livestock and crop production. • Measuring variables on the move: Methods of measuring daily production variables to allow management decisions. • Mapping yield at a field scale: Investigating mapping field data to a yield map, identifying management benefits and errors. • Mapping soil variability at a field scale: Identify invasive and non-invasive soil sampling techniques and identifying benefits from soil mapping.

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Variable rate applications: Mapping of application linked to variable rate planters / applicators.
Technologies available to benefit management decisions.
Software available for business management.
Sustainable land management: Links to sustainable land management through above technologies.
Financial and environmental costs/benefits: Investigate the environmental concerns addressed by using technology to aid management decisions. Analysing financial and non-financial costs and benefits of precision farming methods.

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<tr><td>Teaching and Learning Methods (and contact hours)</td><td>
The module will be delivered through a combination of lectures, seminars and practical application. For example, students will have the opportunity to use relevant software in situ on the Hartpury farm. Students are also expected to carry out independent study to support their knowledge and understanding of the subject. Subject specific visits and guest speakers will support student learning by exposing students to real world practices and emerging technologies. The module incorporates directed study time where students will be set reading tasks for seminar work.

The mix of contact time, directed study, independent study, guest speakers and visits will develop the student's knowledge and understanding of the subject area as well as developing key vocational skills to enhance employment.

Virtual Learning Environment (VLE)
This specification is supported by Moodle where students will be able to find all necessary module information. Direct links to information sources will also be provided from within the VLE.
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<tr><td>Key Information Sets Information</td><td>
HEFCE require Key Information Sets (KIS) to be produced at programme level for all undergraduate programmes of more than one year in length. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are interested in applying for.

<u>Key Information Set - Module data</u>

Number of credits for this module 15

<table>
<tr><th>Hours to be allocated</th><th>Scheduled learning and teaching study hours</th><th>Independent study hours</th><th>Placement study hours</th><th>Allocated Hours</th></tr>
<tr><td>150</td><td>36</td><td>114</td><td>0</td><td>150</td></tr>
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The table below indicates as a percentage the total assessment of the module which constitutes a -

Written Exam: Unseen written exam, open book written exam, In-class test
Coursework: Written assignment or essay, report, dissertation, portfolio, project
Practical Exam: Oral Assessment and/or presentation, practical skills assessment, practical exam

Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the Assessment section of this module description:
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	Total assessment of the module:
	Written exam assessment percentage 0%
	Coursework assessment percentage 0%
	Practical exam assessment percentage 100%
	100%
Reading Strategy	Students are expected to read a range of text books, journal articles and industry relevant publications in support of the module. Any **core** essential reading will be indicated clearly in the first week of module teaching along with the method for accessing it, e.g. students may be expected to purchase a set text, be given a study pack, or be referred to texts that are available electronically, etc. This guidance will be available on the relevant VLE page. **Further** and wider reading is encouraged for this module with relevant material indicated in lectures, lecture notes, seminar preparation instructions and on the relevant VLE. ***Access and skills*** Formal opportunities for students to develop their library and information skills are provided within the induction period and study skills sessions. Additional support is available through online resources. This includes interactive tutorials on finding books and journals, evaluation information and referencing. Sign up workshops are also offered.
Indicative Reading List	The following list is offered to provide an indication of the type and level of information students may be expected to consult. As such, its currency may wane during the life span of the module specification. However, as indicated above, CURRENT advice on readings will be available via other more frequently updated mechanisms. Books: Haverkort, A.J. and Anisimov, B.V. (Current edition). *Potato production and innovative technologies.* Wageningen: Wageningen Academic. Gordon, I (Current edition). *Reproductive technologies in farm animals.* Cambridge: CABI. National Research Council. (1997) *Precision Agriculture in the 21st Century: Geospatial and Information Technologies in Crop Management.* Washington: National Research Council. Peart, R. M. (Current edition) *Agricultural Systems Management: Optimising Efficiency and Performance*. Ohio: CRC Srinivasan, H. (Current edition) *Handbook of Precision Agriculture: principles and Applications.* Chineham: Taylor & Francis Websites and databases Precision Agriculture http://www.precisionagriculture.com.au/ SOYL http://www.soyl.com/ Home Grown Cereal Association: https://cereals.ahdb.org.uk/ Journals Agricultural Technology Journal of Agricultural Science

Part 3: Assessment	
Assessment Strategy	The module is assessed through an oral examination. The examination will allow the student to demonstrate knowledge, understanding and application of the subject matter in order to meet the learning outcomes, as well as displaying wider communication skills. Students will be supported within seminars to develop their industry software skills. The seminar sessions will also be targeted to support students in oral examination preparation. This is likely to include data preparation and analysis which will underpin critical discussion within the examination. Formative feedback will be provided by tutors in these sessions. In line with the Institution's commitment to facilitating equal opportunities, a student may apply for alternative means of assessment if appropriate. Each application will be considered on an individual basis taking into account learning and assessment needs. For further information regarding this please refer to the VLE.

Identify final assessment component and element	**Oral Presentation**	
% weighting between components A and B (Standard modules only)	**A:** **100%**	**B**: **N/A**

First Sit	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Oral Presentation (30 minutes)	100%

Resit (further attendance at taught classes is not required)	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Oral Presentation (30 minutes)	100%
If a student is permitted a retake of the module under the Academic Regulations and Procedures, the assessment will be that indicated by the Module Specification at the time that retake commences.	