University of the West of England
BRISTOL

CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic data						
Module title	Soil and Nutrient Management					
Module code	UILXTB-15-1		Level	1	Version	1
Owning faculty	Hartpury		Field	Animal and Land Science		
Contributes towards	FdSc Agriculture					
UWE credit rating	15	ECTS credit rating	7.5	Module type	Standard	
Pre-requisites	None		Co-requisites	None		
Excluded combinations	None		Module entry requirements	None		
Valid from	01 September 2014		Valid to	01 September 2020		

CAP approval date	27 January 2014

Part 2: Learning and Teaching	
Learning outcomes	On successful completion of this module students will be able to: 1 Identify key physical and chemical parameters in soils, and explain how these parameters influence land use decisions and management (A, B). 2 Describe the benefits and limitations of a range of manures, fertilisers and composts with regards to soil quality and plant growth (A). 3 Explain the role of soil in capability of the land for production and land use options considering their impact on the environment (A). 4 Conduct analyses of soils from different geographical areas using a range of simple experimental techniques and investigations (B). 5 Examine the main components of soil as an ecosystem including the role of soil micro-organisms in carbon and nutrient cycles (A).
Syllabus outline	1 Soil forming factors: parent materials; climate and topography; physical, chemical and biological influences on soil development. 2 Soil texture; soil structure and structural stability; soil density and porosity; soil strength and compaction; soil hydraulic conductivity and infiltration rate. 3 Available water capacity and the importance of organic matter content to soil structure and soil water management. 4 Practical soil analysis for physical and chemical properties, e.g. soil porosity, pH, nutrient content. 5 Availability of plant macro- and micro-nutrients in soils, manures, fertilisers and composts. 6 Carbon, nitrogen, phosphorus nutrient cycles; soil micro-organisms and nitrogen transformations. Cation exchange capacity of soils and influence on nutrient availability.

	7 Soil classification and land capability at national, regional and local scales; soil field description and the use of soil maps in determining land use options. 8 Soil ecology. The comparative roles of macro- and meso-fauna. 9 Water pollution, eutrophication. 10 Soil degradability, the environmental effects of soil erosion, remedial measures.
Contact hours	Indicative delivery modes: Lectures, guided learning, seminars etc 33 Self directed study 3 Independent learning including work placement 114 **TOTAL HOURS 150**
Teaching and learning methods	A variety of learning strategies will be used including lectures, seminars and laboratory sessions and self-directed learning. Students will also be expected to engage in independent learning throughout the module and time to complete assessment work. ***Scheduled learning*** May include lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops; fieldwork; external visits; work based learning; supervised time in studio/workshop. ***Independent learning*** May include hours engaged with essential reading, case study preparation, assignment preparation and completion etc. ***Virtual learning environment (VLE)*** This specification is supported by a VLE where students will be able to find all necessary module information. Direct links to information sources will also be provided from within the VLE.
Key information sets information	Key information sets (KIS) are produced at programme level for all programmes that this module contributes to, which is a requirement set by HESA/HEFCE. 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 Hours to be allocated: 150 | Scheduled learning and teaching study hours: 36 | Independent study hours: 114 | Placement study hours: 0 | Allocated Hours: 150 The table below indicates as a percentage the total assessment of the module which constitutes: 1 *Written exam:* Unseen written exam, open book written exam, in-class test. 2 *Coursework:* Written assignment or essay, report, dissertation, portfolio, project. 3 *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: Total assessment of the module: Written exam assessment percentage 50% Coursework assessment percentage 0% Practical exam assessment percentage 50% 100%
Reading strategy	***Core readings*** Any essential reading will be indicated clearly, along with the method for accessing it, e.g. students may be required to purchase a set text, be given a print study pack or be referred to texts that are available electronically or in the Library. Module guides will also reflect the range of reading to be carried out. ***Further readings*** Further reading will be required to supplement the set text and other printed readings. Students are expected to identify all other reading relevant to their chosen topic for themselves. They will be required to read widely using the library search, a variety of bibliographic and full text databases, and Internet resources. Many resources can be accessed remotely. The purpose of this further reading is to ensure students are familiar with current research, classic works and material specific to their interests from the academic literature. ***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 validation panels/accrediting bodies with 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, including the module guide. • Ashman, M. R. and Puri, G. (Current Edition) *Essential soil science. A clear and concise introduction to soil science.* Oxford: Blackwell Publishing. • Avery, B.W. (Current Edition) *Soil of the British Isles.* Wallingford: CAB International. • Brady, N. C. and Weil, R. R. (Current Edition) *The nature and properties of soil.* London: Prentice Hall International. • Gerrard, J. (Current Edition) *Fundamentals of soils*. London: Routledge. • Morgan, R. P. C. (Current Edition) *Soil erosion and conservation*. Oxford: Blackwell Publishing. • Waugh, D. (Current Edition) *Geography: An integrated approach*. Walton-on-Thames: Nelson.

Part 3: Assessment			
Assessment Strategy	The multiple choice question (MCQ) examination has been chosen so to facilitate broad assessment of the knowledge and understanding; and the intellectual skills gained throughout the module in a time-limited and controlled setting. The practical examination is chosen to facilitate in depth utilisation of practical skills and understanding gained from laboratory sessions and farm visits; and relating this to material learnt in lectures and in additional study via analysis, evaluation and discussion. Feedback will be provided throughout the module via tutorial support; class and on farm discussions and short exercises in addition to that from return of examination results. In line with the College'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	Practical examination.		
% weighting between components A and B (Standard modules only)		**A:**	**B:**
		50%	50%
First Sit			
Component A (controlled conditions) **Description of each element**		**Element weighting**	
1	MCQ examination (1 hour)	100%	
Component B **Description of each element**		**Element weighting**	
1	Practical examination (1.5 hour)	100%	
Resit (further attendance at taught classes is not required)			
Component A (controlled conditions) **Description of each element**		**Element weighting**	
1	MCQ examination (1 hour)	100%	
Component B **Description of each element**		**Element weighting**	
1	Practical examination (1.5 hour)	100%	
If a student is permitted an **EXCEPTIONAL RETAKE** of the module the assessment will be that indicated by the Module Description at the time that retake commences.			