

CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data					
Module Title	Life on Earth				
Module Code	USSK5C-30-1	Level	1	Version	1
Owning Faculty	Health and Applied Sciences	Field	Biological, Biomedical and Analytical Sciences		
Contributes towards	BSc. Hons Wildlife Ecology and Conservation Science BSc. Hons Environmental Science BSc. Hons Biological Sciences				
UWE Credit Rating	30	ECTS Credit Rating	15	Module Type	Standard
Pre-requisites	None		Co- requisites	None	
Excluded Combinations	None		Module Entry requirements	If offered as CPD or stand alone	
Valid From	September 2013		Valid to	September 2019	

CAP Approval Date	19 th June 2013
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Part 2: Learning and Teaching	
Learning Outcomes	<p>On successful completion of this module students will be able to:</p> <ul style="list-style-type: none"> • Identify the key characteristics of major plant, animal and microorganism taxonomic groups (assessed in Component A); • Describe plant, animal and microorganism responses to variations in selected environmental conditions (assessed in Component A); • Describe the roles and interactions of plants, animals and microbes in ecological systems, and their importance to human well-being (assessed in Component A); • Describe the development of evolutionary ideas and evidence for evolution (assessed in Components A and B2); • Describe the modes of inheritance of characteristics and explain the mechanisms of evolutionary change (assessed in Component A, B2); • Obtain, record and interpret data using appropriate techniques in the field and laboratory (assessed in Component B1); • Undertake field and laboratory investigations of living systems in a responsible, safe and ethical manner (assessed in Component B1).
Syllabus Outline	This module examine the features and evolution of the of major plant, animal and

	<p>microorganism groups.</p> <ul style="list-style-type: none"> Principles of organism taxonomy; classification and key features of plant, animal and microorganism groups. <u>Introduction to plant biology</u>: Photosynthesis, mineral nutrition and regulation of plant growth. Factors affecting plant distribution on a global and local scale. Human dependence on plants as the primary source of food, fuel and other products. <u>Introduction to animal biology</u>: comparative animal physiology; the invertebrates and the vertebrates; gas exchange; water and solute balance. Adaptations for living in aquatic and terrestrial environments. <u>Introduction to microbiology</u>: cultivation and control of microorganisms; microbial interactions including pathogenicity; food and industrial microbiology. <u>Population and evolutionary genetics</u>: Genetic variation within populations and effects on gene pools and gene frequencies. Applications of the Hardy-Weinberg equilibrium. Gene frequencies and evolution. Forces of evolutionary change; how species arise and become extinct. Evidence for evolution, rates of evolution, Gradualism and punctuated equilibrium; "living fossils". The evolution of major taxonomic groups and the characteristics of important extant groups of plants and animals. <p>In addition, students are introduced to some of the key concepts in ecology, in the context of the organisms they are studying, including: population growth (microorganisms); essential nutrients and factors limiting growth (plants); symbiosis and mutualism (microorganisms).</p>
Contact Hours	<p>Scheduled learning</p> <p>The contact hours (72) are distributed as follows:</p> <p>12 interactive lectures (including a revision session) @ 3 hours/lecture = 36 hours 12 practicals, field visits and workshops @ 3 hours/session = 36 hours</p> <p>Independent learning Students are expected to spend 228 hours on independent learning tasks.</p>
Teaching and Learning Methods	<p>A variety of learning approaches are used. Practical sessions provide experience of relevant laboratory and field techniques. Practical and workshop sessions provide opportunities for data handling and interpretation, problem-solving and discussions with academic staff. Interactive lectures provide contexts and overviews of topics to guide student-centred learning, and provide further opportunities for student/staff interaction. Student learning is supported by audio-visual material, specialist software packages, paper based worksheets and interactive revision material. The University's on-line Learning Environment Blackboard is used to enhance the students' learning experience.</p> <p>Scheduled learning includes: interactive lectures, practical classes and workshops; fieldwork; external visits. Teaching will be divided into approximately four equal periods, covering the four key themes of plants, animals, microorganisms and evolution.</p> <p>Independent learning includes hours engaged with essential reading, assignment preparation and completion, revision and exam preparation etc.</p>
Key Information Sets Information	<p>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.</p>

Key Information Set - Module data				
Number of credits for this module				30
Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours
300	72	228	0	300

The table below indicates as a percentage the total assessment of the module which constitutes a -

Written Exam: Unseen written exams

Coursework: Written assignment, laboratory report

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		40%
Coursework assessment percentage		60%
		100%

Reading Strategy

All students will be encouraged to make full use of the print and electronic resources available to them through membership of the University. These include a range of electronic journals and a wide variety of resources available through web sites and information gateways. The University Library's web pages provide access to subject relevant resources and services, and to the library catalogue. Many resources can be accessed remotely. Students will be presented with opportunities within the curriculum to develop their information retrieval and evaluation skills in order to identify such resources effectively.

This guidance will be available either in the module handbook, via the module information on Blackboard or through any other vehicle deemed appropriate by the module/programme leaders.

Indicative Reading List

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.

Core Reading

There is a range of good quality, first year undergraduate textbooks in Biology available which will provide a sound underpinning to the material in this module. The titles below are given as examples only; students may wish to use alternative texts. These texts may be purchased relatively cheaply second hand, or accessed through the university library. Any essential reading will be digitised and made available electronically through the Library.

	<p>The most recent editions of:</p> <p>Brooker, R.J. and co-authors Biology, McGraw-Hill, New York.</p> <p>Campbell, N.A, Reece, J.B & Urry, L. Biology, Cummings, San Francisco.</p> <p>Mason, K.A., Losos, J.B., Singer, S., Raven, P.H., Johnson, G.B. Biology. McGraw-Hill, New York.</p> <p>Sadava, D. and co-authors <i>Life: The Science of Biology</i>, Sinauer Associates, Sunderland, MA.</p> <p><u>Further Reading</u></p> <p>The following texts are recommended as further reading. However, students are not recommended to purchase these unless they intend taking further, more specialised modules in these topics later in their degree programme.</p> <p>The most recent editions of:</p> <p>Krukonis G & Barr T. <i>Evolution for Dummies</i>. Wiley USA. <i>e-book: full text available online</i>.</p> <p>Prescott, Harley & Klein Microbiology Published by McGraw Hill.</p> <p>Smith A. Plant Biology, Garland Science</p> <p>Schmidt-Nielsen, K. Animal physiology: adaptation and environment. Cambridge University Press, Cambridge.</p> <p>Willmer, P., Stone, G.& Johnston, I. Environmental Physiology of Animals. Blackwell Scientific Ltd. Oxford.</p> <p>The following journals may also include relevant material and are available through the UWE Library:</p> <p>Trends in Ecology and Evolution Nature</p>
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Part 3: Assessment	
Assessment Strategy	<p>The Assessment Strategy is designed to underpin students' learning and skills acquisition in the module and to provide for learning beyond the material delivered in the classroom. It includes both summative (assessment that contributes to module mark) and formative (assessment that does not contribute to module mark) assessment and feedback opportunities.</p> <p>The Controlled Conditions component of the assessment (Component A) is made up of two short examinations, each of 1½ hours duration, that take place at the end of each semester. Each paper is a combination of multiple choice and longer answer questions, designed to test both the breadth of the students' subject knowledge (multiple choice questions), and their understanding of key concepts (longer answer questions). Having two short examinations reduces the pressure on students to revise a very large body of information for an end-of-year examination and also facilitates timely feedback on exam performance and was introduced in response to student feedback.</p> <p>The Coursework component of the assessment (component B) is made up of two elements, the Practical Report and a short case study (500 words maximum) based on an aspect of evolution. Students have to fully engage with the practical elements of the module to succeed in the practical report, and this ensures that students gain the subject-specific skills and generic (eg.</p>

	<p>group working, awareness of Health and Safety issues) needed for the scientific study of life on earth. The short case study helps students to build their research and information synthesis skills, and tests their ability to communicate complex scientific information in a clear and succinct way.</p> <p>Opportunities for formative assessment are embedded in the module teaching and take a variety of forms, including: in class and on-line tests and quizzes, problem-solving workshops, and model answers for past exam questions.</p> <p>Assessment criteria will be made available to the students in their module handbook at the start of the module. All work is marked using the Department's Generic Assessment Criteria, which in turn has been developed with reference to a range of external reference points, including the QAA Code of Practice on Assessment of Students, UWE's Learning, Teaching and Assessment Strategy, and UWE's E-learning policy.</p>
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Identify final assessment component and element		
% weighting between components A and B (Standard modules only)	A:	B:
	40%	60%
First Sit		
Component A (controlled conditions) Description of each element	Element weighting (as % of component)	
1. Exam 1 (1.5 hours)	50%	
2. Exam 2 (1.5 hours)	50%	
Component B Description of each element	Element weighting (as % of component)	
1. Practical Report	70%	
2. Case Study (500 words)	30%	

Resit (further attendance at taught classes is not required)	
Component A (controlled conditions) Description of each element	Element weighting (as % of component)
1. Exam 3 (3 hours)	100%
Component B Description of each element	Element weighting (as % of component)
1. Problem-solving exercise	70%
2. Case Study (500 words)	30%
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.	