University of the West of England
BRISTOL

CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data						
Module Title	WILDLIFE BIOLOGY					
Module Code	USSKAE-30-1		Level	1	Version	1
Owning Faculty	Health & Applied Sciences		Field	Biological, Biomedical and Analytical Sciences		
Contributes towards	FdSc. Integrated Wildlife Conservation					
UWE Credit Rating	30	ECTS Credit Rating	15	Module Type	Standard	
Pre-requisites	None		Co- requisites	None		
Excluded Combinations	None		Module Entry requirements	None		
Valid From	September 2014		Valid to			

CAP Approval Date	

Part 2: Learning and Teaching	
Learning Outcomes	On successful completion of this module students will be able to: 1. Describe how the morphology of plants and animals is related to physiological function (assessed in Component A, B1, B2). 2. Compare the strategies that have evolved in different organisms in response to environmental challenges (assessed in Component A, B2). 3. Discuss the role of physiological ecology in the survival of wildlife (assessed in Component A, B1).

	4. Calculate a simple energy budget for a specified species, and be able to relate this to its physiological and behavioural adaptations and foraging strategies (assessed in Component A). 5. Describe and identify a range of UK wildlife species of conservation concern (assessed in Component A).
Syllabus Outline	This module integrates aspects of traditional approaches to anatomy and physiology, and the relationship between structure and function, with the ecology of wild animals. While the emphasis will be on vertebrates, invertebrates and plants will be included. The syllabus is divided into six themes: **Taxonomy** – principles of organism taxonomy; classification of organisms in the animal kingdom and major plant phyla. **Thermoregulation** – principles of heat transfer – ectothermy & endothermy – thermoregulation in invertebrate & vertebrate animals. Adaptation to terrestrial, aquatic and extreme environments. Torpor and hibernation **Water Relations** – strategies for water conservation in animals – kidney structure and function – nitrogenous waste – osmotic challenges for aquatic animals; adaptation in plants **Energy** – principles of energetics & metabolism – measuring metabolic rate in animals – body size and metabolism. Optimising the energy cost of locomotion. Nutrition and specialised diets – adaptations in herbivores and carnivores – dentition – cellulose digestion **Reproductive strategies** – principles of r & K selection in animals and plants. Contrasting reproductive strategies in fish, amphibia, reptiles, birds and mammals. Hormonal control of reproduction – delayed implantation **The Neurological basis for behaviour** – structure and function of neurones and neurotransmission, comparative morphology of the vertebrate central nervous system. Sensory systems. The role of hormones in behaviour.
Contact Hours	**Scheduled learning** Students can expect to receive a minimum of 72 hours taught material. **Independent learning** Students are expected to spend 228 hours on independent learning tasks and preparation of assessments.

Teaching and Learning Methods	A variety of teaching and learning approaches will be employed. The module will be delivered using interactive lectures combined with workshops and some practical work. Lectures will be supplemented by audiovisual materials (video, DVDs) showing specific examples of wild animals in their environment. Material from BBC natural history programmes will prove especially valuable. Lectures will be used to introduce main concepts and to guide and inform student centred learning while workshops will provide students the opportunity to discuss issues in-depth. These will be further supported by visits to sections of the zoo appropriate to the groups of animals under study and by practical observations of animals in Bristol Zoo Gardens and other institutions. The module places considerable emphasis on recognising and using subject-specific theories, paradigms, concepts and principles. The module will introduce the subject areas in a taxonomic framework and will encourage exploration of the topics with the evolutionary principles and adaptations in mind. Learning methods include the application of knowledge and understanding to address familiar and unfamiliar issues. Student learning will be supported through the University's E-Learning Environment, Blackboard. A culture of continuous learning will be developed through the implementation of regular on-line discussion groups which discuss identified topics in-depth. **Scheduled learning** includes interactive lectures, workshop and supervised fieldwork and practicals. **Independent learning** includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc.
Key Information Sets Information	**Key Information Set - Module data** *Number of credits for this module* 30 Hours to be allocated: 300 Scheduled learning and teaching study hours: 72 Independent study hours: 228 Placement study hours: 0 Allocated Hours: 300

	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. The natural history books and journals held by Bristol Zoo Gardens will also be available to student. Any **essential reading** will be indicated clearly, along with the method for accessing it, e.g. students may be expected to purchase a set text, be given a print study pack or be referred to texts that are available electronically, etc. 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. If **further reading** is expected, this will be indicated clearly. If specific texts are listed, a clear indication will be given regarding how to access them and, if appropriate, students will be given guidance on how to identify relevant sources for themselves, e.g. through use of bibliographical databases.
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.* The most recent edition of: **General** • Savada, D et al, **Life: the Science of Biology**. WH Freeman & Co. Support material for this book can be accessed through QR codes and web-links in this edition. Earlier editions may be useful but reference will be made to pages and links in the

	latest edition. **For more specialised parts of the course** • Bradshaw, D. Vertebrate ecophysiology: an introduction to its principles and applications. CUP • Brown, J. H. The Physiological ecology of vertebrates: a few from energetics. Cornell University Press. • Eckert, R., Randall, D. J., Burggre, W. and French. K., Animal Physiology. W. H. Freeman & Co. • Hill, R. W., Animal Physiology. Sinauer Associates. • Hillman, S.S., Withers, P.C., Drewes, R.C. & Hillyard, S.D. Ecological and environmental physiology of amphibians. OUP. • Karasov, W. H., and Martinez del Rio, C., Physiological Ecology: how animals process energy, nutrients and toxins. Princeton University Press. • Schmidt-Nielsen, K., Animal Physiology: adaptation and environment. CUP. • Spicer, J., Physiological Diversity: ecological implications. Wiley/Blackwell. • Wilmer, P. Environmental Physiology of animals. Wiley/Blackwell.

Part 3: Assessment	
Assessment Strategy	The Assessment Strategy has been designed to support and enhance the development of subject-based understanding whilst ensuring that the modules Learning Outcomes are attained, as described below. Assessments are designed to underpin students' learning and skills acquisition in the module and to provide for learning beyond the material delivered in the classroom. Assessments include both summative (assessment that contributes to module mark) and formative (assessment that does not contribute to module mark) assessment and feedback opportunities. The Controlled Conditions component of the assessment comprises a single 2-hour exam which takes place at the end of the year. The 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). This component will test all the learning outcomes. The Coursework component of the assessment is made up of two elements. Element one is a written report which requires students to compare how

	different species are adapted to their environments (1500 words, worth 30% of total module marks). This will test learning outcomes 1 and 3. Element two is a report on zoo enclosure design based around a particular species physiology and ecology and how to accommodate those features (100 words, worth 30% of module marks). This component will test learning outcomes 1 and 2. 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. Assessment criteria will be made available to the students in the module guide 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 Quality Code on Assessment of Students and the recognition of prior learning, UWE's Learning, Teaching and Assessment Strategy, and UWE's E-learning policy.

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 (2 hours)		100%
Component B **Description of each element**		**Element weighting (as % of component)**
1. Written report		50%
2. Practical report		50%

Resit (further attendance at taught classes is not required)

Component A (controlled conditions) **Description of each element**	**Element weighting (as % of component)**
1. Exam (2 hours)	100%
Component B **Description of each element**	**Element weighting (as % of component)**
1. Written report (2500 words)	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.