



**CORPORATE AND ACADEMIC SERVICES**

**MODULE SPECIFICATION**

Part 1: Basic Data					
Module Title	Primate Ecology and Conservation				
Module Code	USSJYK-20-3	Level	3	Version	1
Owning Faculty	HAS	Field	Applied Sciences		
Contributes towards	BSc Biological Sciences BSc Conservation Biology BSc Integrated Wildlife Conservation				
UWE Credit Rating	20	ECTS Credit Rating	10	Module Type	Standard
Pre-requisites	USSJ9X-20-2 Animals and Ecosystems or USSJ9R-20-2 Applied Ecology or USSJPY-20-2 Animal Behaviour for Wildlife Conservation		Co- requisites	None	
Excluded Combinations	None		Module Entry requirements	If offered as CPD or stand alone	
Valid From	September 2013		Valid to	September 2019	

<b>CAP Approval Date</b>	19 <sup>th</sup> May 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"> <li>- demonstrate an advanced understanding of primate taxonomic diversity and primate evolution and be able to relate primate adaptations to the evolution and ecology of the four major primate habitat regions (Africa, Madagascar, Asia, Neotropics) (<i>assessed in Component A</i>)</li> <li>- discuss the fundamentals of primate sexuality and reproduction as well as mate choice in primates, and the important stages in primate life history (<i>assessed in Component A</i>);</li> <li>- critically discuss the role of primate nutritional ecology and predation on primates as the main selection pressures influencing primate behaviour (<i>assessed in Component A</i>);</li> <li>- review primate social behaviour, primate social systems and their ecological basis (<i>assessed in Component A</i>);</li> <li>- evaluate the state of the environment in the major primate habitat regions in relation to species requirements and habitat conservation (<i>assessed in Component A</i>);</li> <li>- undertake a variety of primatology methods to record scientific data in the field, and present, analyse and interpret these data (<i>assessed in Component B</i>);</li> <li>- use a wide range of resources that support primate research methods and problem solving (<i>assessed in Component B</i>).</li> </ul>

Syllabus Outline	<p>This module is designed to introduce students to the field of comparative primatology, with emphasis on primate ecology and conservation. They not only learn about the diversity and evolution of primates, their adaptations to different habitats and ecological niches, their socioecology and conservation needs, but are also introduced to different field and laboratory methods in primatology.</p> <p>1) Primate taxonomic diversity and evolution</p> <p>What are primates? The order Primates – families, genera, species and subspecies. Primate evolution – origin, early primates, radiation, colonisation of Madagascar and the Neotropics, speciation processes. Species concepts – overview.</p> <p>2) Primate adaptations</p> <p>Primate distributions and major habitat regions – Africa, Madagascar, Asia, Neotropics. Strepsirrhines vs. haplorhines; catarrhines vs. platyrrhines. Evolution of primate adaptations. Examples for specialisations in primates. Primate locomotion – quadrupedal and bipedal locomotion, brachiation, prehensile tails.</p> <p>3) Primate sexuality, reproduction and life histories</p> <p>Life histories – ontogenetic and allometric variation in life history traits. How have evolutionary forces shaped the life courses of primates? Primate growth and development – infancy, juvenility, sexual maturity. Primate reproduction – sexual behaviour, conception, paternity, seasonality, menopause and reproductive senescence. Mate choice – sexual selection, female mate choice, male mate choice, sexual swellings.</p> <p>4) Primate nutritional ecology and predation</p> <p>Dietary categories in primates. Adaptations of dentition and digestive tract – foregut-fermenting folivores, hindgut-fermenting folivores, frugivores, insectivores. Specialist feeders – gummivores, granivores, graminivores. Body weights of wild and captive primates. Feeding primates in zoos. Predation on primates – predator-primate interactions, predation risk and vulnerability, predator-sensitive behaviours, anti-predator behaviours.</p> <p>5) Primate socioecology and behaviour</p> <p>Socioecology – how do environmental variables influence primate group size, composition, and social dynamics? Primate social organisation – mating and rearing patterns, demography/grouping patterns, intra- and intergroup behaviour. Communication – signal structure, intra- and inter-species communication. Cooperation and competition, social learning, cognition.</p> <p>6) Primate conservation</p> <p>The conservation status of primates – IUCN Red List, Primate Specialist Group. Major threats to primates – habitat destruction and degradation, hunting, trade, resource extraction. Species conservation vs. habitat conservation, ecosystem services etc. Success stories and failures in primate conservation – examples. Main actors in primate conservation – national and regional authorities, NGOs, private sector. The role of good governance in primate conservation.</p> <p>7) Methods in primate research</p> <p>Habituating primates, habitat description, primate survey and census methods (population distribution and density, transects vs. plot-based methods), trapping, handling and sampling techniques, morphometrics and taxonomy, radio-tracking, feeding ecology and dietary analysis, observational studies of behaviour, field and zoo experiments.</p>
Contact Hours	<p>The contact hours (51) are distributed as follows:</p> <p>21 lectures @ 2 hours/lecture = 42 hours</p> <p>3 practicals @ 3 hours/practical = 9 hours</p>
Teaching and Learning Methods	<p>The module is delivered entirely at Bristol Zoological Gardens and makes extensive use of Bristol Zoo's expertise in primate conservation, as well as its large collection of captive primates. It is able to draw on the Zoo's wide experience of in-situ</p>


primate conservation work around the world, especially in Madagascar and the Cameroon, to provide real-world case-studies to support student learning.

**Scheduled learning** includes lectures, seminars and practical classes based on the Zoo's primate collection.

**Independent learning** includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc. These sessions constitute an average time per level as indicated in the table below.

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.

Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours	
200	51	149	0	200	

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

**Written Exam:** Unseen written exam

**Coursework:** Written 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:

Written exam assessment percentage	60%
Coursework assessment percentage	40%
	100%

Reading Strategy

Student learning will be supported through the University's E-Learning environment, Blackboard. Copies of recommended textbooks are available in the library. Students will be encouraged to read original literature (peer-reviewed scientific papers) during the course of the module. Some papers will be discussed with the students during lectures.

**Suggested Texts**

A good introduction to many of the fields of primatology covered by this module is: Campbell CJ, Fuentes A, Mackinnon KC, Panger M, Bearder SK. 2007. *Primates in perspective*. Oxford, UK: Oxford University Press.

The textbook that will be used as a thread through the field and laboratory methods

	<p>section of the module is:  Setchell JM, Curtis DJ. 2003. <i>Field and laboratory methods in primatology: A practical guide</i>. 2<sup>nd</sup> edition. Cambridge, UK: Cambridge University Press.</p>
Indicative Reading List	<p>Cowlshaw G. 2000. <i>Primate conservation biology</i>. Chicago, IL: The University of Chicago Press.</p> <p>Dixon AF. 2012. <i>Primate sexuality: Comparative studies of the prosimians, monkeys, apes and humans</i>. 2<sup>nd</sup> edition. Oxford, UK: Oxford University Press.</p> <p>Fleagle JG. 1998. <i>Primate adaptation and evolution</i>. 2<sup>nd</sup> edition. Academic Press Inc.</p> <p>Garber PA, Estrada A, Bicca-Marques JC, Heymann EW. 2009. <i>South American primates: Comparative perspectives in the study of behavior, ecology and conservation</i>. Springer.</p> <p>Groves CP. 2001. <i>Primate taxonomy</i>. Washington, DC: Smithsonian.</p> <p>Gould L, Sauther ML. 2006. <i>Lemurs - ecology and adaptation</i>. Springer.</p> <p>Hohmann G, Robbins MM, Boesch C. 2006. <i>Feeding ecology of apes and other primates</i>. Cambridge, UK: Cambridge University Press.</p> <p>Kappeler PM, Ganzhorn JU. 1993. <i>Lemur social systems and their ecological basis</i>. New York, NY: Plenum Press.</p> <p>Kappeler PM, van Schaik CP. 2004. <i>Sexual selection in primates: New and comparative perspectives</i>. Cambridge, UK: Cambridge University Press.</p> <p>Lee PC. 2001. <i>Comparative primate socioecology</i>. Cambridge University Press.</p> <p>Mitani J, Call J, Kappeler PM, Palombit R. 2012. <i>The evolution of primate societies</i>. Chicago, IL: The University of Chicago Press.</p> <p>Journals:</p> <p>Primates  African Primates (open access online)  Neotropical Primates (open access online)  Asian Primates (open access online)  Lemur News (open access online)  Folia Primatologica  International Journal of Primatology  American Journal of Primatology  Primate Conservation (open access online)</p>

### Part 3: Assessment

Assessment Strategy	<p>The Assessment Strategy has been designed to take full advantage of the facilities offered by Bristol Zoo for studying primate ecology, whilst ensuring that the module Learning Outcomes are attained.</p> <p>The coursework assessment consists of an extended piece of practical research comprising the observation of the behaviour of a specific primate species/group within the Zoo, combined with the appropriate analysis, presentation and interpretation of the research data, and its evaluation in the context of the published research literature. It is an extended piece of work designed to test the research, analysis and critical appraisal skills expected of students in the final year of their undergraduate degrees. Word limit 4,000 words.</p> <p>The exam explores the students' breadth and depth of understanding of key concepts in Primate ecology and conservation. Questions are designed to explore a student's ability to recognise and use key theories and concepts in both familiar and unfamiliar situations, to synthesise and critically evaluate information from a range of sources, and to use contemporary evidence (eg. case studies) to support their arguments. 3 hours duration.</p> <p>Formative feedback is available to students throughout the module through group discussions, skills evaluations etc built into the lecture and practical programme. Students are provided with formative feed-forward for their</p>
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	exam through a revision and exam preparation session at the end of the module, and through support materials supplied through Blackboard.
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Identify final assessment component and element	<b>Written Exam</b>	
% weighting between components A and B (Standard modules only)	<b>A:</b>	<b>B:</b>
	<b>60%</b>	<b>40%</b>
<b>First Sit</b>		
<b>Component A</b> (controlled conditions) <b>Description of each element</b>	<b>Element weighting</b> <i>(as % of component)</i>	
1. Written Exam (3 hours)	100	
2.(etc)		
<b>Component B</b> <b>Description of each element</b>	<b>Element weighting</b> <i>(as % of component)</i>	
1. Practical Report (4,000 words)	100	
2.(etc)		

<b>Resit (further attendance at taught classes is not required)</b>		
<b>Component A</b> (controlled conditions) <b>Description of each element</b>	<b>Element weighting</b> <i>(as % of component)</i>	
1. Written Exam (3 hours)	100	
2.(etc)		
<b>Component B</b> <b>Description of each element</b>	<b>Element weighting</b> <i>(as % of component)</i>	
1. Practical Report (4,000 words)	100	
2.(etc)		
If a student is permitted an <b>EXCEPTIONAL RETAKE</b> of the module the assessment will be that indicated by the Module Description at the time that retake commences.		