1. **Module Title**  
   Application of Conservation Biology Theory (XX300)

2. **School or partner institution which will be responsible for management of the module**  
   School of Anthropology and Conservation

3. **Start date of the module**  
   March 2006 (revised version start date February 2014)

4. **The number of students expected to take the module**  
   14

5. **Modules to be withdrawn on the introduction of this proposed module and consultation with other relevant Schools and Faculties regarding the withdrawal**  
   This is a modification of an existing module of the same name, so no module will be withdrawn.

6. **The level of the module (e.g. Certificate [4], Intermediate [5], Honours [6] or Postgraduate [7])**  
   6

7. **The number of credits and the ECTS value which the module represents**  
   Credit value = 30 (ECTS equivalent = 15)

8. **Which term(s) the module is to be taught in (or other teaching pattern)**  
   February - May

9. **Prerequisite and co-requisite modules**  
   Transferable Skills for Conservation Managers (XX301). Both modules are compulsory.

10. **The programmes of study to which the module contributes**  
    Graduate Certificate in Endangered Species Management

11. **The intended subject specific learning outcomes**  
    Students who successfully complete this module will understand:
    11.1. The value of the species unit as a measurement of conservation action (A1);
    11.2. The concepts of biodiversity and ecosystems services, their values, and threats to them (A1);
    11.3. The concept of endangerment, its measurement and causes (A2);
    11.4. The dynamics of small populations and their increased exposure to extinction processes (A3);
    11.5. The potential and realities of ex-situ species management as a conservation tool (A4,A5);
    11.6. How to use species prioritisation systems (e.g. IUCN Red List) to identify focus for conservation action and the potential limitations of such systems (A7);
    11.7. The value of marine islands as living “laboratories” bettering our understanding of species evolution, endemicity, vulnerability and conservation options (A2,A6,A7);
    11.8. The importance of population health management both in the wild and in captivity to species conservation goals (A6);
11.9. How to engage human communities in species conservation action, both ‘in-situ’ and ‘ex-situ’ (A9,A10).

The numbers in brackets after the outcomes correspond to stated programme learning outcomes (see Programme Specification).

12. The intended generic learning outcomes

The over-arching learning outcome of the module is to develop a critical awareness of the approaches adopted to conserve endangered species both directly and indirectly and the value of the species-level approach in contributing to global biodiversity management.

In addition to the subject-specific learning outcomes, students will gain an understanding of:

12.1. Synthesising information from various written and spoken sources to gain a coherent understanding of conservation biology theory and practice (B11);
12.2. Adopting a holistic approach to problem-solving considering the different cultural, spiritual, scientific and experiential viewpoints of other students (B16);
12.3. Techniques for manipulating reproduction in- and ex-situ (C17);
12.4. Best practice in animal husbandry (nutrition, health, welfare) (C18);
12.5. Investigative veterinary techniques (bacterial culturing, analysing blood samples, principles of conducting post-mortems etc.) (C22).
12.6. Population monitoring skills (programme design, sampling, survey techniques, minimising bias etc. (C19).

The numbers in brackets after the outcomes correspond to stated programme learning outcomes (see Programme Specification).

13. A synopsis of the curriculum

As the world’s biodiversity comes under ever-increasing threat from the drive for human development there is a need for greater efficiency and effectiveness of conservation action, in particular at the species level which is currently our best known unit of measurement. It is crucial that the conservation managers, in particular in the biodiversity-rich countries of the world, have a sound understanding of biological diversity and particularly of species in order to prioritise, plan and act in a way that makes best use of limited resources.

This module is designed to bed a practical understanding of species conservation in the principal theories of conservation biology, beginning with a critical exploration of the current state of the world’s biodiversity - its distribution, abundance and demise as we know it - and the main threats that it faces. The importance of extinction as a natural process will be distinguished from the current perceived elevated rate of species loss over “background” rates. The introduction to small population biology theory and its relevance to species conservation will then outline the vulnerable status of many wild populations today and will highlight the risks of complacency over species that have been reduced to small and fragmented pockets. We cannot save all species at once; prioritisation tools (e.g. Hotspots, EDGE, and the IUCN Red List) will be demonstrated and practiced to develop the skill of applying these systems and to introduce some of the limitations imposed by any selection procedure.

Once selected for action the conservation of a species requires planning - what strategy to adopt? What are the potential actions involved? How much will it cost? And how long will it take? In this module students will be encouraged to critically review the planning process for species conservation, with particular emphasis on the value of diagnosing the main threats before identifying the best course of action. Through case study analysis students will consider the extended lengths of time required to save many species that have been (or are being) saved today and to discuss whether there is any scope for improvement. By tapping into the proven expertise of Durrell Wildlife Conservation Trust and the numerous case studies of species conservation attached to it, this module will explore a range of direct techniques for species conservation both in captivity and at the interface with the wild to demonstrate the direct actions that can be applied to manage species recovery in the wild.

Students will evaluate the level of success of such direct actions and the more indirect approach of involving local communities in conservation education and action to turn threatened species around. Discussions and case study analyses of such actions will be enriched by first-hand experience on
Durrell’s animal and education departments and fieldtrips to visit local conservation initiatives, providing a holistic exposure to the realities of species conservation both in captivity and in the wild.

14. **Indicative Reading List**


15. **Learning and Teaching Methods, including the nature and number of contact hours and the total study hours which will be expected of students, and how these relate to achievement of the intended module learning outcomes**

This module will run over seven weeks and will be taught mainly by qualified staff from Durrell Conservation Academy, supported by guest lecturers from Durrell’s overseas programmes, senior wildlife park staff and other invited speakers. Time on the animal and education departments will be managed by academy staff and experience wildlife park personnel. This time within the wildlife park and on external field trips will be interwoven with lecture and discussion time to facilitate greater connectivity between the theory and practice of species conservation. Mentoring and general support or guidance is additionally available from Durrell Conservation Academy staff through our ‘open-door’ policy.

**Learning and Teaching Methods used**

- Lectures (approximately 70 contact hours) – addresses learning outcomes: 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.9, 12.4;
- Small group activities and plenary discussions (approximately 90 contact hours) – addresses learning outcomes: 11.2, 11.4, 11.5, 11.6, 11.8, 11.9, 12.1, 12.2;
- Tours and practical demonstrations (approximately 10 contact hours) – addresses learning outcomes: 11.5, 11.8, 11.9, 12.3, 12.4, 12.5;
- Fieldtrips (approximately 5 contact hours) – addresses learning outcomes: 11.2, 12.2, 12.6;
- Practical skills activities (approximately 10 contact hours) – addresses learning outcomes: 11.9, 12.5, 12.6;
- Computer-based teaching sessions (approximately 5 contact hours) – addresses learning outcomes: 11.4, 12.6;
- Skills Development Task (5 days of personalised and supervised study time, approximately 40 contact hours) – learning outcomes addressed by this will vary from student to student according to what topic/skill they choose.

The total amount of contact time for this module is 230 hours. In addition, students are expected to carry out at least 70 hours of independent learning time (research, further reading, revision etc). Provision is made for this in the timetable. The total number of study hours is therefore 300 hours.
16. **Assessment methods and how these relate to testing achievement of the intended module learning outcomes**

Formal summative assessment for this module is through two written exam papers (normally spaced approximately one week apart in the final three weeks of the programme). Both papers have a duration of 1 ½ hours.

Paper 1 comprises short answer questions to assess theoretical and factual understanding of conservation biology theory.

Paper 2 comprises a seen essay-style question to assess ability to apply the theoretical understanding into a practical context, identifying the limitations as well as the strengths of our current knowledge, through a well-argued and well-synthesised coherent evidence-based answer. Students are given a choice of essay questions approximately 48hrs in advance of the exam.

Paper 1 (40% of module mark) assesses outcomes: 11.1 – 11.9, 12.2 – 12.6.

Paper 2 (60% of module mark) assesses outcomes: 11.1 – 11.9, 12.1 – 12.6.

All assessment components must be passed, at a pass mark of 40%, in accordance with the University’s Credit Framework (www.kent.ac.uk/teaching/qa/credit-framework).

17. **Implications for learning resources, including staff, library, IT and space**

For its duration the module will be able to utilize all the facilities available at Durrell Conservation Academy and the adjacent Durrell Wildlife Park, which is a world-renowned centre for species conservation. These comprise the lecture room, library, computer room (with 24-hour internet access), small classroom and various small group breakout rooms, and all the facilities offered by the animal, veterinary and education departments within the wildlife park. Teaching will be led by Durrell Conservation Academy staff, supported by staff from Durrell’s wildlife park and field programmes, and external lecturers/practitioners brought in according to specific expertise.

18. **Statement on support for disabilities and special educational needs:**

The Collaborative Partner (Durrell Wildlife Conservation Trust) recognises and has embedded the expectations of current disability equality legislation, and supports students with a declared disability or special educational need in its teaching. Within this module we will make reasonable adjustments wherever necessary, including additional or substitute materials, teaching modes or assessment methods for students who have declared and discussed their learning support needs. Arrangements for students with declared disabilities will be made on an individual basis, in consultation with the Collaborative Partner’s disability/dyslexia support service, and specialist support will be provided where needed.

19. **Campus(es) where module will be delivered:**

Durrell Conservation Academy, Durrell Wildlife Conservation Trust, Jersey

20. **Partner Validated Institution:**

Durrell Conservation Academy, Durrell Wildlife Conservation Trust

21. **University School responsible for the programme:**

School of Anthropology and Conservation, University of Kent
SECTION 2: MODULE IS PART OF A PROGRAMME OF STUDY IN A UNIVERSITY SCHOOL

Statement by the School Director of Learning and Teaching/School Director of Graduate Studies (as appropriate): "I confirm I have been consulted on the above module proposal and have given advice on the correct procedures and required content of module proposals"

Dr David Roberts
Print Name
.6th November 2013 ..........
Date

Director of Graduate Studies (delete as applicable)

Statement by the Head of School: "I confirm that the School has approved the introduction of the module and, where the module is proposed by School staff, will be responsible for its resourcing"

Professor João Pina Cabral
Print Name
.8th November 2013............................
Date

Head of School

SECTION 3: MODULE IS PART OF A PROGRAMME IN A PARTNER COLLEGE OR VALIDATED INSTITUTION

(Where the module is proposed by a Partner College/Validated Institution)

Statement by the Nominated Officer of the Validated Institution: "I confirm that the Validated Institution has approved the introduction of the module and will be responsible for its resourcing"

Dr Tim Wright
Durrell Conservation Academy Manager
Durrell Wildlife Conservation Trust
(Partner Validated Institution)

1st November 2013
Date