

MSc (Wild Animal Biology) Course Outline

1. Awarding institution	University of London
2. Teaching institution	The Royal Veterinary College (RVC, University of London) and Institute of Zoology (IoZ, Zoological Society of London)
3. Programme accredited by	N/A
4. Final award	Master of Science (Wild Animal Biology)
5. Programme Title	Wild Animal Biology
6. Date of First Intake	October 2003
7. Frequency of Intake	Annually in September
8. Duration and Mode(s) of Study	One calendar year and Full time
9. Timing of Examination Board meetings	Annually in September
10. Date of Last Periodic Review	2007/2008
11. Date of Next Periodic Review	2012/2013
12. UCAS code	N/A
13. JACS Code	D200
14. Relevant QAA subject benchmark group(s)	N/A
15. Reference points	N/A
16. Educational aims of programme	<p>The programme aims to:</p> <ul style="list-style-type: none"> • produce graduates equipped to play a leading role in conservation as researchers, epidemiologists, academics and senior management in <i>in-situ</i> conservation programmes, national parks, zoological collections, universities and government departments worldwide • produce high-calibre graduates who can proceed to study for higher research degrees
17. Programme outcomes - the programme offers opportunities for students to achieve and demonstrate the following learning outcomes.	

<p>A. Knowledge and understanding of:</p> <ul style="list-style-type: none"> • the biological principles underpinning wildlife disease and conservation studies • field, conservation and pathological techniques in wild animals • conservation biology including population ecology • epidemiology, diagnosis, pathology and control of wildlife disease, the ecology of infectious agents in wild animal populations and veterinary interventions in wildlife (including social, welfare, ethical and legal aspects) • management and sustainable utilisation of captive and free-living wild animals (including husbandry, breeding and nutrition), and the preventive medicine of captive and free-living wild animals • wildlife research methodology 	<p>Teaching/learning methods: Students acquire knowledge and understanding through participation in:</p> <ul style="list-style-type: none"> • lectures • practical classes • scientific presentations • problem-based learning (PBL) • rotation groups • organised visits to sites of special interest off campus <p>Assessment by:</p> <ul style="list-style-type: none"> • written examinations • coursework (oral and written reports) • research (written report and oral defence)
<p>B. Cognitive (thinking) skills:</p> <ul style="list-style-type: none"> • Planning • Logic and reasoning • Comprehension • Visual and auditory processing • Long-term memory 	<p>Teaching/learning methods: Students' cognitive skills are developed / reinforced through active participation in:</p> <ul style="list-style-type: none"> • lectures • practical classes • scientific presentations • problem-based learning • PBL • rotation groups <p>Assessment by:</p> <ul style="list-style-type: none"> • written examinations • coursework (oral and written reports) • research (written report and oral defence)
<p>C. Practical skills:</p> <ul style="list-style-type: none"> • Basic competence in management techniques for wild animals • Scientific skills, including critical review of the scientific literature, and design, execution and analysis of laboratory or field studies 	<p>Teaching/learning methods: Students learn practical skills through active participation in:</p> <ul style="list-style-type: none"> • rotation groups • practical classes • individual research project <p>Assessment:</p> <ul style="list-style-type: none"> • research (written report and oral defence) • Competence in Pathological Procedures, Zoo Management and Wild Animal Conservation and Management Check List

D.4. Key skills:

- communication skills
- group work skills
- personal skills
- interpersonal skills
- organisational skills
- teaching and training skills
- learning skills
- information gathering and analytical skills
- problem solving skills
- language skills
- information technology skills
- entrepreneurial skills

Teaching/learning methods:

- regular interaction with course directors, lecturers, peers
- preparation of scientific presentations
- PBL
- population census field work
- rotation groups / practical classes
- use of computer software in the preparation of scientific presentations (MS PowerPoint), casebook write-up and research project report (literature searching, MS Word), analysis of field and experimental data (SPSS, MS Excel), group report writing in PBL (WIKKI)
- planning individual research project

Assessment:

- written examinations
- coursework (oral and written reports)
- research (written report and oral defence)
- Competence in Pathological Procedures, Zoo Management and Wild Animal Conservation and Management Check List

18. Programme structures and requirements, levels, modules, credits and awards

Part I: Postgraduate Certificate in Wild Animal Biology

Introductory week: You will be introduced to the Course objectives, the mission of the partner organizations running the Course, and the services you can receive at the ZSL and the RVC.

Module 1. Conservation Biology: You will develop a conceptual understanding of which species and populations are vulnerable to extinction, how we can monitor their population dynamics and how resources to conserve species can be allocated most successfully using a scientific approach.

Structure: Lectures, Practicals, Scientific Presentations, two PBLs, a visit to Whipsnade Zoo for a census

Requirements: none

Level: Certificate (FEHQ Level 7)

Credits: 15 credits

Module 2. The Impact of Disease on Populations: The effects of diseases on populations can be complex but even subtle influences can markedly unbalance free-living and captive populations of wild animals. An understanding of these effects requires a critical evaluation of epidemiology and the population biology of infectious agents. Armed with this knowledge you will be equipped to make informed decisions on control methods, where these are considered an ethical approach.

Structure: Lectures, Practicals, Scientific Presentations and one PBL

Requirements: none

Level: Certificate (FEHQ Level 7)

Credits: 15 credits

Module 3. Health and Welfare of Captive Wild Animals: Considering the enormous diversity of animal species, the management of healthy populations in captivity is an exacting challenge. In this module you will gain a critical understanding of the principles of animal management and preventive medical approaches to maintain healthy populations and enhance their welfare.

Structure: Lectures, Practicals, Scientific Presentations and one PBL, a visit to Woburn Park

<p>and the Wildfowl and Wetlands Trust's Slimbridge Wetland Centre Level: Certificate (FEHQ Level 7) Requirements: none Credits: 15 credits</p>
<p>Module 4. Interventions: Where anthropogenic threats endanger free-living populations of animals, people increasingly see a need to intervene for the conservation or welfare of these populations. However, given the need to understand complex ecological systems, the disease risks of manipulating them and the potential stress of intervention methods, such activities require detailed planning, highly skilled input and scientific evaluation to ensure lessons are learned. Using real examples this module will help you to develop a conceptual understanding of intervention methodology. Structure: Lectures, Practicals, Scientific Presentations and one PBL Level: Certificate (FEHQ Level 7) Requirements: none Credits: 15 credits</p>
<p>Awards: Upon satisfactory completion of modules 1, 2, 3 and 4 and 60 credits, the certificate is awarded</p>
<p>Part II: Postgraduate Diploma in Wild Animal Biology</p>
<p>Module 5. Detection Surveillance and Emerging Disease: Morbidity and mortality in free-living populations of wild animals are difficult to detect and monitor given ecosystem processes and the bias of convenience sampling strategies. In this module you will learn about the complex methods required to detect and monitor changes in endemic diseases, detect emergent diseases, and interpret the findings in a scientific manner. Structure: Lectures, Practicals, Scientific Presentations and one PBL Level: Diploma (FEHQ Level 7) Requirements: Certificate Credits: 15 credits</p>
<p>Module 6. Ecosystem Health: The strong interdependence between the health of people, their domestic animals and free-living wildlife (the one-health concept) is a rapidly advancing field of scientific inquiry as illustrated by studies on globally emergent zoonoses and the health of ocean fauna. Here, you will develop your understanding of this concept through examining these examples and how they have developed policy changes. Structure: Lectures, Scientific Presentations and one PBL Level: Diploma (FEHQ Level 7) Requirements: Certificate Credits: 15 credits</p>
<p>Module 7. Evaluation of the Health and Welfare of Captive Wild Animals: In the Certificate you will have gained a critical understanding of the management and preventive medical care required to maintain healthy populations. In this module we investigate the scientific evaluation of wild animal welfare and critically analyse the relationship of health with both reproduction and nutrition. Structure: Lectures, Practicals, Scientific Presentations and two PBLs Level: Diploma (FEHQ Level 7) Requirements: Certificate Credits: 15 credits</p>
<p>Module 8. Practical: This module covers the complex set of skills required to effectively maintain healthy captive populations of wild animals, and to monitor and intervene in the health of free-living populations. You will gain a conceptual and practical understanding of critical aspects of pharmacology and anaesthesia, pathology, and remote monitoring of wild animals. Structure: Rotations - Zoo Animal Management rotations at London and Whipsnade Zoos or Wild Animal Conservation and Management rotations at external institutions Level: Diploma (FEHQ Level 7) Requirements: certificate Credits: 15 credits</p>

Awards: upon satisfactory completion of the certificate, modules 5, 6, 7 and 8 and 120 credits, the Diploma is awarded

Part III: MSc in Wild Animal Biology

Module 9. Research: As well as successfully completing the Postgraduate Certificate and Diploma level modules, an MSc graduate must complete a research project in order to demonstrate:

- A comprehensive understanding of research and inquiry, including (i) critical appraisal of the literature, (ii) scientific writing and (iii) scientific presentation
 - The ability to design and analyse hypothesis-driven laboratory and/or field studies.
1. **Research Planning** In this module you will develop the extensive skills required to design and conduct practical research projects, critically appraise and review the literature, deliver effective scientific presentations, and write scientific papers suitable for submission to peer-reviewed journals.
 2. **Project** You will be required to undertake an individual research project, between May and mid-August, and to submit a typewritten report not exceeding 10,000 words in the form of a grant report and a scientific paper suitable for submission to a peer-reviewed journal. The project will encompass a practical study on an approved aspect of wild animal biology. The project may be undertaken at any place approved by the Institute/College with the guidance of a course supervisor.

Level: MSc

Requirements: Diploma (FEHQ Level 7)

Credits: 60 credits

Awards: upon satisfactory completion of the diploma, module 9 and 180 credits, the MSc is awarded.

19. Assessment

You will be assessed by four written papers, course work (assignments and case reports), an individual research project report and an oral examination. All candidates will undertake a full assessment irrespective of their performance in other parts of the course.

Project reports are submitted in mid-August and oral examinations are held in mid-September.