**MSci Wild Animal Biology Programme Specification**

**Applies to cohort commencing 2015**

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| **1. Awarding institution** | The Royal Veterinary College | |
| **2. Teaching institution** | The Royal Veterinary College and Institute of Zoology (IoZ, Zoological Society of London) | |
| **3. Programme accredited by** | N/A | |
| **4. Final award** | Master in Science | |
| **5. Programme Title** | Wild Animal Biology | |
| **6. Date of First Intake** | 2015 | |
| **7. Frequency of Intake** | Annually in September | |
| **8. Duration and Mode(s) of Study** | Four years full-time | |
| **9. Timing of Examination Board meetings** | Annually in July | |
| **10. Date of Last Periodic Review** | N/A | |
| **11. Date of Next Periodic Review** | 2019/20 | |
| **12. Entry Requirements** | Three Advanced Level/A2 subjects including Chemistry or Biology/Human Biology. General studies is not accepted as a third subject.  Where an applicant is taking Biology/Human Biology/Chemistry AND another science subject (Human Biology, Biology, Chemistry, Physics or Mathematics), they will receive an offer of BBB.  Where an applicant is taking Human Biology/Biology/Chemistry and two other non-science subjects, they will receive an offer of ABB including an A in the science subject they are taking.  Other courses that will be accepted include; 15-19 Diploma, Access to HE Diploma. BTEC National Diploma in Animal Management. BTEC or City & Guilds Level 3 Extended Diploma in Animal Management. BTEC National Diploma/Level 3 Extended Diploma in Applied Science. BTEC Subsidiary Diploma in Applied Chemistry. Cambridge Pre-U. Birkbeck College's Certificate of Higher Education in *"Life Sciences for subjects allied to medicine".*  International Baccalaureate Certificate/Diploma. Scottish Qualifications. Welsh Baccalaureate. Irish Leaving Certificate. UCL University Preparatory certificate for Science & Engineering (UPCSE) for International Students. Advanced Placements. Canadian High School Certificate.  and  GCSEs at grade B in English, Mathematics (if not studied at A-Level) and Double Science (or in two individual science subjects, if taken separately)  Progression to Year 4  To be considered for progression to Year 4, applicants must have achieved an aggregate Year 2 mark of at least 60% or an aggregate Year 2 mark of at least 55% with 62% in the project report, and at least 55% in Year 3. | |
| **13. UCAS code** | C300 | |
| **14. JACS Code** | C300 | |
| **15. Relevant QAA subject benchmark group(s)** | Not applicable | |
| **16. Reference points** | | | |
| Regulations of the University of London  The Framework for Higher Education Qualifications in England, Wales and Northern Ireland, Quality Assurance Agency, 2008  Higher education credit framework for England: guidance on academic credit arrangements in higher education in England, Quality Assurance Agency, 2008  SEEC Level Descriptors for Higher Education, SEEC, 2010 | | | |
| **17. Educational aims of programme** | | | |
| The programme aims to:   * produce graduates equipped to play a leading role in conservation as researchers, epidemiologists, academics and senior management in in-situ conservation programmes, national parks, zoological collections, universities and government departments worldwide * produce high-calibre graduates who can proceed to study for higher research degrees   The specific aims of the MSci Year are to enable students to:   * gain research experience within the field of wild animal biology * gain a deep and systematic understanding of current questions, problems and methods employed within the selected specialised research topic * implement principles of project and experimental design and carefully execute, record and clearly disseminate research * use self-reflection to improve levels of knowledge, professionalism, personal skills and research skills * develop a sound appreciation of the research environment in which the student is working and their role within it   **The Educational Aims of the taught modules of Year 4:**  **Conservation Biology:**  - examine the models we can use to assess population viability,  - gain an understanding of the allocation of scarce resources for conservation  **The Impact of Disease on Populations:**  - a critical review of epidemiology and the population biology of infectious agents  **Health and Welfare of Captive Wild Animals:**  - a critical understanding of the principles of animal management and preventive medical approaches to maintain healthy populations and enhance their welfare.  **Interventions:**  - to review intervention methods  **Detection, Surveillance and Emerging Diseases:** - to review the complex methodology required to detect and monitor changes in endemic diseases, to detect emerging diseases and interpret the findings in a scientific manner.  **Ecosystem Health:** - to review the impact of anthropogenic stressors on the ecosystem and how ecosystem health can be measured  **Evaluation of the Health and Welfare of Captive Wild Animals:**  - to investigate the scientific evaluation of wild animal welfare - critically analyse the keeping of wild animal in captivity | | | |
| **18. Programme outcomes - the programme offers opportunities for students to achieve and demonstrate the following learning outcomes.** | | | |
| 1. **Knowledge and understanding of:**  * 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   **B. Cognitive (thinking) skills:**   * Planning * Logic and reasoning * Comprehension * Visual and auditory processing * Long-term memory   **C. Practical skills:**   * 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   **D.4. Key skills:** communication skillsgroup work skillspersonal skillsinterpersonal skillsorganisational skillsteaching and training skillslearning skillsinformation gathering and analytical skillsproblem solving skillslanguage skillsinformation technology skillsentrepreneurial skills | | | |
| **Teaching/learning methods**  Students develop their knowledge and understanding through attendance at lectures, seminars, workshops, tutorials and through a variety of directed and self-directed learning activities, including practical exercises and self-assessment tools. They will learn cognitive skills through problem solving, case studies, reflection and role modelling. Practical skills will be learned through demonstration, observation, prosecution, feedback, role modelling and experimentation. Key Skills will be taught through group work and exercises, structured learning, practical work, reflection, presentations (oral and written) and problem-solving exercises.  The teaching is divided into didactic modules (four x 15 credits) and a research module (75 credits).  The didactic modules are a compulsory ‘Research Skills’ module and three modules relevant to the research project selected from i) Conservation Biology, ii) The Impact of Disease on Populations, iii) Health and Welfare of Captive Wild Animals, iv) Interventions, v) Detection, Surveillance and Emerging Diseases, vi) Ecosystem Health and vii) Evaluation of the Health and Welfare of Captive Wild Animals  The research module will involve the design and completion of a research project. Outcomes will include a scientific paper prepared for publication and presentation at a specified conference.  During Year 4 an extended project is carried out under the supervision of a Supervisor. Training will be given to the student as appropriate by the supervisor and other work colleagues, with regular meetings with the supervisor. | | | |
| **Assessment**  A. Knowledge and understanding:  Students will be assessed through a combination of formative, in-course and summative examinations, using a range of question formats.  B. Cognitive (thinking) skills:  Cognitive skills will be assessed through appropriately structured written examinations, together with project reports and discussion of poster presentations.  C. Practical skills:  Practical skills will be assessed using structured tasks and experimental projects.  D. Key Skills:  Through key skills assessment criteria, alongside systems and discipline-based assessment criteria, these skills will be assessed in a variety of ways throughout the course.  E. Research Skills:  Research skills are assessed in all years through written and oral presentation of a literature-based project and three experimental projects, with supervisor assessments for experimental projects. Formative assessment of the project during Year 4 (MSci Research Year) will be via participation in lab meetings journal clubs, supervisory meetings and tutorials; self-assessment of skills. Summative assessment will be assessment of a Project Report, poster presentation, an oral examination and a Supervisor’s assessment. Assessment of the Research Skills module is via a Research Proposal, with presentation at two journal clubs being required. | | | |
| **19. Programme structures and requirements, levels, modules, credits and awards** | | | |
| The Wild Animal Biology degree is a linear, non-modular programme in its first two years. In the Third Year, each student follows a programme of modules and course units from those offered by the RVC and/or other institutions.  Year One is valued at 120 credits at Level 4; Year Two, 120 credits at Level 5; Year Three, 120 credits at Level 6; Year Four, 120 credits at Level 7. | | | |
| **Year 1**  The core course will comprise:   * Essential Biomedical Sciences- The Moving Animal, The Living Cell, Inheritance; Reproduction & Development, Basic Concept in Immunology * Systems & Investigative Biology   Problem Definition and Investigation | | **Year 2**  The course will comprise:   * The Enemy Within * The Enemy Without * Imaging of Disease * Wild Animal Biology * Bioveterinary-related research project | |
| **Year 3**  Project-related taught optional modules (60 credits) from:   * Comparative animal locomotion (30). * Advanced Skeletal Pathobiology (15). * Advanced Concepts in Reproduction (15). * Development and Disease (15). * Infection and Immunity (30). * Advanced Concepts in Biobusiness (15). * Parasitology of Tropical Human and Veterinary Disease (15). * Comparative Models of Disease (30) * Endocrine and Metabolic Syndromes (15). * Genetics in Action (15) * Epidemiology: The bigger picture (15) * Animal Behaviour and Welfare (30). * Practical Investigative biology (15). * Veterinary pathology (30) * Various KCL modules.   Hypothesis driven Wild Animal Biology research project involving data analysis and interpretation (60 credits) | | **Year 4**  Research Skills module (15 credits)  Hypothesis driven Wild Animal Biology research project involving data analysis and interpretation (60 credits)  Three Wild Animal Biology taught module options (total of 45 credits) from the following 15 credit modules:   * Conservation Biology * The Impact of Disease on Populations * Health and Welfare of Captive Wild Animals * Interventions * Detection, Surveillance and Emerging Diseases * Ecosystem Health * Evaluation of the Health and Welfare of Captive Wild Animals | |
| The generic theme will continue throughout the first two years and will comprise:   * finding and using information * what makes a professional scientist? * epistemology * scientific method * statistics * data recording * basic epidemiology * experimental design * risk * analytical tools * ethics * communication skills * leadership * team building and function * business and financial management * patent law | | | |
| **20. Work Placement Requirements** | Optional Certificate in Work-based Learning and Research placement year |