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**Plymouth University**

**Academic Partnerships**

***Cornwall College***

***Newquay***

**Programme Quality**

**Handbook for**

***BSc (Hons) Applied Zoology and Conservation***

**2014 – 15**

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# Welcome and Introduction to BSc (Hons) Applied Zoology and Conservation.

Welcome to the BSc (Hons) in Applied Zoology and Conservation. This degree is a full-time three year course designed to equip students with the necessary skills and knowledge to work within the field of conservation. Modules cover a range of subjects from anatomy and physiology to behaviour, population and habitat management.

The course is delivered at Cornwall College Newquay which is ideally located for field based observation, with terrestrial and marine sites including Areas of Outstanding Natural Beauty (AONB) such as Trevose Head and Bedruthan Steps, Special Areas of Conservation (SAC) including Breney Common and Goss and Tregoss Moor (JNCC 2014), and newly designated Marine Conservation Zones (MCZ) including Padstow Bay and surrounds (DEFRA 2013). The location and the colleges close links with advisory bodies such as Natural England, Inshore Fisheries and Conservation Authorities (IFCA), and Cornwall Wildlife Trust allow students to study and participate in conservation and management of the local area as it happens.

Students will have the option of taking a placement year between Stage 2 and 3, this will require a total of 26 weeks on placement with either a single or multiple relevant employers/organisations. Students will need to opt for the placement year by the end of Stage 1. During the placement year students will need to conduct an independent research project and will be supported in the lead up to the placement and throughout by a placement year supervisor. The research conducted as part of the placement year project cannot be used for the Honours Project in Stage 3. Further detail is available in appendix 1 - rationale for the placement year.

Students are also required to complete a minimum of 100 hours of work experience throughout the course of the three year programme. This can be completed through contribution to national tax on specific surveys such as bird and sea mammal observation for Seaquest South West, or the National Swift Inventory through the RSPB. Students can also organise their own work placement either within the UK or abroad, with previous placements including Secret World Wildlife Rescue, Natural England within the UK and The Great Gorilla Project in Uganda, and the Caprivi Carnivore Project in Namibia. This allows students to develop their practical skills and apply theory to practice. The students will evaluate their work experience as part of the Zoological Conservation in Practice module (Level 5).

This Programme Quality handbook contains important information including:

* The approved programme specification
* Module records

**Note:** the information in this handbook should be read in conjunction with the current edition of the College Student handbook available at (college to add link) which contains student support based information on issues such as finance and studying at HE along with the University’s Student Handbook - <https://www1.plymouth.ac.uk/studenthandbook> and your Teaching, Learning and Assessment Handbook available on your programme virtual learning environment.

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# Programme Specification

On the following pages you will find the specification for your programme of studies. It is a Academic Partnerships requirement that this is included in your Student Handbook. Before reading it, please study the following notes carefully as these will help you to understand what the programme specification is telling you.

The programme specification is an overview to the programme as a whole. It explains what you will learn and what you will be assessed on throughout your Degree.

The Programme Learning Outcomes Map specifies the knowledge and skills you will develop at each stage of your degree.

**Awarding Institution:** Plymouth University

**Teaching Institution:** Cornwall College (Newquay Campus)

**Accrediting Body:** N/A

**Final Award:** BSc (Hons)

**Intermediate Awards:** N/A

**Programme Title:** Applied Zoology and Conservation

**UCAS Code:** 0V47

**Date Produced:**

**Admissions Criteria**

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| **Qualification(s) Required for Entry to this Programme:** | **Details:** |
| **Level 2:** |  |
| **GCSE and level 2 equivalents:** | 5 passes at grades A-C, including Science/Biology, Maths and English Language- other level 2 equivalents considered |
| **Level 3: at least one of the following:** |  |
| * **A Levels required to meet AS/A2/UCAS Points Tariff:** | 220 UCAS Tariff points from a combination of A-level/AS-level to include 80 points from a science subject at A2. |
| * **Advanced Level Diploma:** | Environmental or science related subjects |
| * **BTEC National Certificate/Diploma:** | Equivalent to ‘MMM’ at Extended Diploma in a science related subject |
| * **HNC/D:** | Environmental or science related subjects, overall pass grade |
| * **VDA: AGNVQ, AVCE, AVS:** | Normally, relevant AGNVO at pass |
| * **Access to HE or Year 0 provision:** | Successful completion of a relevant Access to HE programme including unit in biology, with an additional unit in chemistry, mathematics or quantitative methods desirable. 45 credits should be at Merit or above. |
| * **International Baccalaureate:** | 24 IB Diploma points |
| * **Irish / Scottish Highers / Advanced Highers:** | 220 UCAS tariff points to include at least 75 points in a science subject |
| **Work Experience:** | Assessed on application |
| **Other non-standard awards or experiences:** | To be reviewed during application process |
| **APEL / APCL possibilities:** | Applications are considered on an individual basis in accordance with the academic regulations |
| **Interview / Portfolio requirements:** | Interviews MAY be required by the tutor |
| **Independent Safeguarding Agency (ISA) / Criminal Record Bureau (CRB) clearance required:** | All students will require this check if they may be working with young people |
| **Other requirements:** | There is a compulsory fieldwork component to the course which will involve physical activity. Applicants who are not confident that they will be capable of this requirement should discuss support needs with the course coordinator. |

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| **Programme Aims:** |
| A1. Provide a conceptual understanding of Applied Zoology & Conservation that enables the student to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of zoology and conservation.  A2. Offer the opportunity of developing the qualities and transferable skills necessary for employment in zoology and conservation, including skills required for effective team work, project management and communication delivered through applied teaching and work experience placements.  A3. Offer a broad, relevant and contemporary curriculum, enriched by the scholarly activity of staff and support of employers in the sector.  A4. Provide opportunities to develop students’ field based practical skills, laboratory based practical skills and experiential learning in aspects of Applied Zoology and Conservation.  A5. Develop autonomous learning skills including academic research skills. Promoting students’ ability to critically analyse, assess and evaluate data gathered both in the field and through scientific literature, all required attributes for natural career development or progression academically. |

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| **Programme Intended Learning Outcomes (ILO)** |
| By the end of this programme the student will be able to:  LO1. Evaluate the political and socioeconomic factors which form and influence zoological conservation and recognise the ethical implications of zoological conservation, demonstrating an understanding of the roles and responsibilities of regulatory and advisory bodies.  LO2. Effectively communicate information, arguments and analysis, in a variety of forms, to specialist and non-specialist audiences, and deploy key techniques in the study of zoological conservation and in a work context.  LO3. Demonstrate knowledge of the main methods of enquiry in zoological conservation , and the ability to evaluate critically the appropriateness of different approaches to solving problems in zoological conservation and apply these in a work context.  LO4. Relate the biological factors limiting the populations of animals to the management of animal collections both in the wild and in captivity.  LO5. Present an accurate understanding of zoology at a variety of levels (from molecular to ecological systems) and put this into context of evolutionary theory.  LO6. Demonstrate a range of practical observation, survey and analytical skills appropriate for conservation management.  LO7. Critically evaluate their role within a relevant work placement conducted during the course of the programme. |

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| **Level 4: BSc (Hons) Applied Zoology and Conservation** | | | | | | |
| **Definitions of Graduate Attributes and Skills Relevant to this Programme** | | **Teaching and Learning Strategy / Methods** | **Prog Aims** | **Prog intended Learning Outcomes** | **Range of Assessments** | **Related Core Modules** |
| **Knowledge / Understanding:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)**  Engagement with the essential facts, major concepts, principles and theories associated with the chosen discipline. Knowledge of the processes and mechanisms that have shaped the natural world in terms, for example, of the spread of time from the geological to the present and of complexity from the environmental to the cellular. The influence on living systems of human activities (and the converse) could also be considered  Threshold standard:   * Describe how organisms are classified and identified. * Describe mechanisms for the life processes and appreciate how the physiology of an organism fits its environment. * Describe the place of the organisms studied in the living world. * have an understanding of the explanation of biological phenomena at a variety of levels (from molecular to ecological systems) and be able to explain how evolutionary theory is relevant to their area of study. * demonstrate awareness of human interactions with natural populations and ecosystems, including habitat modification, pollution, exploitation and conservation. | | Primary:  Lectures and tutorials  Practical laboratory and husbandry sessions  Industry visits  Guided independent study  Learning from extended work placements  Secondary/Supplementary:  Site visits to animal collections, Natural History Museum, Eden Project.  Additional lecture information available on VLE- Moodle. | A1, A3, A4, A5 | LO1, LO2, LO3, LO6 | Essays  In class tests  Exams  Management plans  Reports  Poster/ presentations | **Level 4**  CORN163: Animals and their Environment  CORN115: Diversity, Classification and Evolution  CORN171: Introduction to Zoology |
|  | |  |  |  |  |  |
| Competence in the basic experimental skills appropriate to Zoology and Conservation.  Threshold standard:   * have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses | | Primary:  Lectures  Independent guided study  Practical workshops  Secondary/Supplementary:  Site visits to Electron Microscope, MBA  Guest workshops run by ecological consultants and specialists.  Additional lecture information available on VLE- Moodle. | A1, A4, A5 | LO3, LO4, LO8 | Reports  Assessed practicals  In class tests  Exams | **Level 4**  CORN162: Key Professional Skills  ZOO6: Fieldwork  CORN171: Introduction to Zoology  CORN115: Diversity, Classification and Evolution  CORN154: Hygiene, Health and Welfare of Captive Animals  CORN163: Animals and their Environment |
| By the end of this level of this programme the students will be able to demonstrate a knowledge of a range of communication techniques and methodologies relevant to zoology and conservation, including data analysis and the use of statistics.  Threshold standard:   * be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study | | Primary:  Independent guided study  Practical workshops  Group seminars/ group work  Secondary/Supplementary: Research seminars  Additional lecture information available on VLE- Moodle. | A1, A2, A5 | LO2, LO3 | Essays  Management plans  Reports  Poster/  presentations | **Level 4**  CORN162: Key Professional Skills |
| **An exposition for embedding Knowledge and Understanding through Teaching & Learning and Assessment at this level of the programme:**  The learner has demonstrated a given factual and/or conceptual knowledge base with emphasis on the nature of the field of study and appropriate terminology and can demonstrate awareness of ethical issues associated with the subject. | | | | | | |
| **Cognitive and Intellectual Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** | |  |  |  |  |  |
| By the end of this level of this programme the students will be able to demonstrate an appreciation of the complexity and diversity of life processes through the study of organisms, their molecular, cellular and physiological processes, their genetics and evolution, and the interrelationships between them and their environment.  A threshold pass:   * describe the structure, diversity and reproduction of the organisms studied * describe basic organism structure and diversity * describe mechanisms for the life processes and appreciate how the physiology of an organism fits it for its environment show knowledge of the basic genetic principles relating to, and evolution of, the organisms studied * Describe the place of the organisms studied in the living world. * appreciate the importance of the 'behaviour' of the organisms studied. * demonstrate knowledge of biogeochemical cycles and pathways * describe and exemplify nutrient and energy flow through individuals, populations and communities * describe and exemplify patterns of distribution of organisms in relation to biotic and abiotic factors * demonstrate knowledge of population processes, dynamics and interactions, and associated theoretical models * demonstrate knowledge of community structure, development, biodiversity, and associated theoretical models * demonstrate awareness of human interactions with natural populations and ecosystems, including habitat modification, pollution, exploitation and conservation | | Primary:  Lectures  Independent guided study  Practical workshops  Group seminars/group work  Secondary/Supplementary:  Research seminars  Additional lecture information available on VLE- Moodle. | A1, A4, A5 | LO4, LO5, LO6 | Essays  Management plans  Reports  Poster/  presentations | ALL CORE MODULES |
| By the end of this level of this programme the students will be able to demonstrate the ability to read and use appropriate literature with a full and critical understanding, while addressing such questions as content, context, aims, objectives, quality of information, and its interpretation and application.  Threshold standard:   * be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study. | | Primary:  Lectures  Independent guided study  Practical workshops  Group seminars  Secondary/Supplementary:  Additional information and tasks available on VLE- Moodle | A1, A2, A4, A5 | LO2, LO3, LO6 | Literature reviews  Essay  Reports  Presentations. | **Level 4**  CORN162: Key Professional Skills  CORN115: Diversity, Classification and Evolution |
| By the end of this level of this programme the students will be able to demonstrate the ability to think independently, set tasks and solve problems.  Threshold standard:   * have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses | | Primary:  Independent guided study  Practical workshops  Secondary/Supplementary:  Additional information and tasks available on VLE- Moodle | A1, A2, A4, A5 | LO2, LO3, LO6 | Assessed practicals  In class tests  Exams  Project report and presentations | **Level 4**  CORN162: Key Professional Skills  CORN115: Diversity, Classification and Evolution |
| By the end of this level of this programme the students will be able to demonstrate, analyse, synthesise and summarise information critically, including published research or reports.  Threshold standard:   * be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study | | Primary:  Lectures  Independent guided study  Practical workshops  Group seminars  Secondary/Supplementary:  Additional information and tasks available on VLE- Moodle | A1, A2, A4, A5 | LO2, LO3, LO6 | Literature reviews  Essays  Reports  Presentations | **Level 4**  CORN162: Key Professional Skills  CORN115: Diversity, Classification and Evolution |
| By the end of this level of this programme the students will be able to demonstrate obtain and integrate several lines of subject-specific evidence to formulate and test hypotheses.  Threshold standard:   * be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident | | Primary:  Lectures  Independent guided study  Practical workshops  Group seminars  Secondary/Supplementary:  Additional information and tasks available on VLE- Moodle | A1, A2, A4, A5 | LO1, LO2, LO3, LO5, LO6 | Reports  Presentations  Practical workshops  Assessed practicals | **Level 4**  CORN171: Introduction to Zoology  ZOO6: Fieldwork  CORN162: Key Professional Skills |
| By the end of this level of this programme the students will be able to demonstrate recognise the moral and ethical issues of investigations and appreciate the need for ethical standards and professional codes of conduct.  Threshold standard:   * have some understanding of ethical issues and the impact on society of advances in the biosciences | | Primary:  Lectures  Independent guided study  Practical workshops  Secondary/Supplementary:  Visits to collections and such as Natural History Museum, Paignton Zoo, Dartmoor Zoo | A1, A3, A5 | LO1, LO2 | Debate  Reports  Presentations | **Level 4**  CORN171: Introduction to Zoology  ZOO6: Fieldwork  CORN162: Key Professional Skills  CORN163: Animals and their Environment |
| **An exposition for embedding Cognitive and Intellectual Skills through Teaching & Learning and Assessment at this level of the programme:**  The learner has demonstrated the ability to analyse with guidance given classifications/guidance, can collect and categorise ideas and information in a predictable and standard format, can evaluate the reliability of data using defined techniques and/or tutor guidance and can apply given tools/methods accurately and carefully to a well-defined problem and begin to appreciate the complexity of the issues. | | | | | | |
| **Key Transferable Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** | |  |  |  |  |  |
| By the end of this level of this programme the students will be able to communicate about their subject appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language.  A threshold pass:   * be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study * recognise and respect the views and opinions of other team members including negotiating skills * evaluate performance as an individual and a team member; evaluate the performance of others | | Primary:  Lectures  Seminars  Guided independent study  Workshops  Secondary/Supplementary:  Guided practical and laboratory experience  Guest lectures and visits  Attendance at Cornwall College Newquay Research and Scholarly day  Work placement | A2, A3, A5 | LO1, LO7 | Posters  Presentations and digital displays  Personal evaluation  Viva voce  Management plan | ALL CORE MODULES |
| **An exposition for embedding Key Transferable Skills through Teaching & Learning and Assessment at this level of the programme:**  The learner can work effectively with others as members of a group and meet obligations to others; they can work within an appropriate ethos and can access and use a range of learning resources; they can evaluate their own strengths and weaknesses within criteria largely set by others; they can manage information, collect appropriate data from a range of sources and undertake simple research tasks with external guidance; they can take responsibility for their own learning with appropriate support; they can communicate effectively and report practical procedures in a clear and concise manner; they can apply given tools / methods accurately and carefully to a well-defined problem and appreciate the complexity of the issues in the discipline. | | | | | | |
| **Employment Related Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** | |  |  |  |  |  |
| By the end of this level of this programme the students will be able to demonstrate the skills necessary for self-managed and lifelong learning (eg working independently, time management, organisational, enterprise and knowledge transfer skills)  A threshold pass:   * be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident * have developed basic strategies to enable them to update their knowledge of the biosciences * develop an adaptable, flexible and effective approach to study and work | | Primary:  Self-directed voluntary work  Compulsory work experience  Independent guided workshops  Secondary/Supplementary:  Guest seminars and lectures  Study groups and supplementary group tasks/ research activities | A1, A2, A3, A4, A5 | LO2, LO3, LO6, LO7 | Poster presentations  Reflective summary  Personal evaluations | **Level 4**  CORN162: Key Professional Skills |
| **An exposition for embedding Employment Related Skills through Teaching & Learning and Assessment at this level of the programme:**  The learner has demonstrated an understanding of organisational and work based practices; they have out theory in to practice by applying and developing discipline relates skills, knowledge and understanding. | | | | | | |
| **Practical Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** |  | |  |  |  |  |
| By the end of this level of this programme the students will be able to demonstrate the ability to design, plan, conduct and report on investigations, which may involve primary or secondary data (eg from a survey database). These data may be obtained through individual or group projects.  A threshold pass:   * be able to record data accurately, and to carry out basic manipulation of data (including qualitative data and some statistical analysis, when appropriate) * be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident * have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses | Primary:  Lectures  Independent guided study  Practical workshops  Research tutorials  Secondary/Supplementary:  Visits to Electron Microscope and MBA  Guest workshops run by ecological consultants and specialists  Additional lecture information available on VLE- moodle | | A1, A2, A4, A5 | LO3, LO5, LO6 | Reports  Presentations  Assessed practicals  In class tests  Exams | **Level 4**  CORN162: Key Professional Skills  ZOO6: Fieldwork  CORN171: Introduction to Zoology  CORN115: Diversity, Classification and Evolution  CORN154: Hygiene, Health and Welfare of Captive Animals  CORN163: Animals and their Environment |
| By the end of this level of this programme the students will be able to demonstrate the ability to design, plan, conduct and report on investigations, which may involve primary or secondary data (eg from a survey database). These data may be obtained through individual or group projects.  A threshold pass:  • be able to record data accurately, and to carry out basic manipulation of data (including qualitative data and some statistical analysis, when appropriate).  • be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident.  • have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses. | Primary:  Lectures  Independent guided study  Practical workshops  Research tutorials  Secondary/Supplementary:  Visits to Electron Microscope, MBA  Guest workshops run by ecological consultants and specialists.  Additional lecture information available on VLE- Moodle | | A1, A2, A4, A5 | LO3, LO5, LO6 | Reports, presentations, assessed practicals, in class tests, exams | **Level 4**  CORN162: Key Professional Skills  ZOO6: Fieldwork  CORN171: Introduction to Zoology  CORN115: Diversity, Classification and Evolution  CORN154: Hygiene, Health and Welfare of Captive Animals  CORN163: Animals and their Environment |
| By the end of this level of this programme the students will be able to undertake field and/or laboratory investigations of living systems in a responsible, safe and ethical manner. For example, students must pay due attention to risk assessment, relevant health and safety regulations, issues relating to animal welfare and procedures for obtaining informed consent. They should show sensitivity to the impact of investigations on the environment, on the organisms or subjects under investigation, and on other stakeholders.  A threshold pass:  • appreciate the interactions of organisms with each other and the environment  • have some understanding of ethical issues and the impact on society of advances in the biosciences  • have developed basic strategies to enable them to update their knowledge of the biosciences. | Primary:  Lectures  Independent guided study  Practical workshops  Research tutorials  Secondary/Supplementary:  Additional lecture information available on VLE- Moodle.  Information through Home Office, RSPCA, ethical review process | | A1, A3, A4, A5 | LO2, LO3, LO5, LO6 | Reports, presentations, assessed practicals, in class tests, exams | **Level 4**  CORN162: Key Professional Skills  ZOO6: Fieldwork  CORN171: Introduction to Zoology  CORN115: Diversity, Classification and Evolution  CORN154: Hygiene, Health and Welfare of Captive Animals  CORN163: Animals and their Environment |
| **An exposition for embedding Practical Skills through Teaching & Learning and Assessment at this level of the programme:**  Learners will have demonstrated an ability to apply practical skills developed within the course to a wide variety of industry related scenarios and will be required to complete a range of practical based skills assessments throughout this unit. | | | | | | |

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| **Level 5: BSc (Hons) Applied Zoology and Conservation** | | | | | |
| **Definitions of Graduate Attributes and Skills Relevant to this Programme** | **Teaching and Learning Strategy / Methods** | **Prog Aims** | **Prog intended Learning Outcomes** | **Range of Assessments** | **Related Core Modules** |
| **Knowledge / Understanding:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)**  Engagement with the essential facts, major concepts, principles and theories associated with the chosen discipline. Knowledge of the processes and mechanisms that have shaped the natural world in terms, for example, of the spread of time from the geological to the present and of complexity from the environmental to the cellular. The influence on living systems of human activities (and the converse) could also be considered  Threshold standard:   * Describe how organisms are classified and identified. * Describe mechanisms for the life processes and appreciate how the physiology of an organism fits its environment. * Describe the place of the organisms studied in the living world. * have an understanding of the explanation of biological phenomena at a variety of levels (from molecular to ecological systems) and be able to explain how evolutionary theory is relevant to their area of study. * demonstrate awareness of human interactions with natural populations and ecosystems, including habitat modification, pollution, exploitation and conservation. | Primary:  Lectures and tutorials  Practical laboratory and husbandry sessions  Industry visits  Guided independent study  Learning from extended work placements  Secondary/Supplementary:  Site visits to animal collections, Natural History Museum, Eden Project.  Additional lecture information available on VLE- Moodle. | A1, A3, A4, A5 | LO1, LO2, LO3, LO6 | Essays  In class tests  Exams  Management plans  Reports  Poster/ presentations | **Level 5**  CORN272: Vertebrate Zoology and Conservation  CORN274: Biosecurity and Invasive Species  CORN273: Population Genetics and Community Ecology |
|  |  |  |  |  |  |
| Competence in the basic experimental skills appropriate to Zoology and Conservation.  Threshold standard:   * have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses | Primary:  Lectures  Independent guided study  Practical workshops  Secondary/Supplementary:  Site visits to Electron Microscope, MBA  Guest workshops run by ecological consultants and specialists.  Additional lecture information available on VLE- Moodle. | A1, A4, A5 | LO3, LO4, LO8 | Reports  Assessed practicals  In class tests  Exams | **Level 5**  CORN275: Zoological Conservation in Practice  CORN274: Biosecurity and Invasive Species  CORN273: Population Genetics and Community Ecology |
| By the end of this level of this programme the students will be able to demonstrate knowledge of a range of communication techniques and methodologies relevant to zoology and conservation, including data analysis and the use of statistics.  Threshold standard:   * be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study | Primary:  Independent guided study  Practical workshops  Group seminars/ group work  Secondary/Supplementary: Research seminars  Additional lecture information available on VLE- Moodle. | A1, A2, A5 | LO2, LO3 | Essays  Management plans  Reports  Poster/  presentations | **Level 5**  CORN275: Zoological Conservation in Practice |
| **An exposition for embedding Knowledge and Understanding through Teaching & Learning and Assessment at this level of the programme:**  The learner has demonstrated a given factual and/or conceptual knowledge base with emphasis on the nature of the field of study and appropriate terminology and can demonstrate awareness of ethical issues associated with the subject. | | | | | |
| **Cognitive and Intellectual Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** |  |  |  |  |  |
| By the end of this level of this programme the students will be able to demonstrate an appreciation of the complexity and diversity of life processes through the study of organisms, their molecular, cellular and physiological processes, their genetics and evolution, and the interrelationships between them and their environment.  A threshold pass:   * describe the structure, diversity and reproduction of the organisms studied * describe basic organism structure and diversity * describe mechanisms for the life processes and appreciate how the physiology of an organism fits it for its environment show knowledge of the basic genetic principles relating to, and evolution of, the organisms studied * Describe the place of the organisms studied in the living world. * appreciate the importance of the 'behaviour' of the organisms studied. * demonstrate knowledge of biogeochemical cycles and pathways * describe and exemplify nutrient and energy flow through individuals, populations and communities * describe and exemplify patterns of distribution of organisms in relation to biotic and abiotic factors * demonstrate knowledge of population processes, dynamics and interactions, and associated theoretical models * demonstrate knowledge of community structure, development, biodiversity, and associated theoretical models * demonstrate awareness of human interactions with natural populations and ecosystems, including habitat modification, pollution, exploitation and conservation | Primary:  Lectures  Independent guided study  Practical workshops  Group seminars/group work  Secondary/Supplementary:  Research seminars  Additional lecture information available on VLE- Moodle. | A1, A4, A5 | LO4, LO5, LO6 | Essays  Management plans  Reports  Poster/  presentations | ALL CORE MODULES |
| By the end of this level of this programme the students will be able to demonstrate obtain and integrate several lines of subject-specific evidence to formulate and test hypotheses.  Threshold standard:   * be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident | Primary:  Lectures  Independent guided study  Practical workshops  Group seminars  Secondary/Supplementary:  Additional information and tasks available on VLE- Moodle | A1, A2, A4, A5 | LO1, LO2, LO3, LO5, LO6 | Reports  Presentations  Practical workshops  Assessed practicals | **Level 5**  CORN272: Vertebrate Zoology and Conservation |
| By the end of this level of this programme the students will be able to demonstrate recognise the moral and ethical issues of investigations and appreciate the need for ethical standards and professional codes of conduct.  Threshold standard:   * have some understanding of ethical issues and the impact on society of advances in the biosciences | Primary:  Lectures  Independent guided study  Practical workshops  Secondary/Supplementary:  Visits to collections and such as Natural History Museum, Paignton Zoo, Dartmoor Zoo | A1, A3, A5 | LO1, LO2 | Debate  Reports  Presentations | **Level 5**  CORN272: Vertebrate Zoology and Conservation  CORN274: Biosecurity and Invasive Species |
| **An exposition for embedding Cognitive and Intellectual Skills through Teaching & Learning and Assessment at this level of the programme:**  The learner has demonstrated the ability to analyse with guidance given classifications/guidance, can collect and categorise ideas and information in a predictable and standard format, can evaluate the reliability of data using defined techniques and/or tutor guidance and can apply given tools/methods accurately and carefully to a well-defined problem and begin to appreciate the complexity of the issues. | | | | | |
| **Key Transferable Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** |  |  |  |  |  |
| By the end of this level of this programme the students will be able to communicate about their subject appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language.  A threshold pass:   * be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study * recognise and respect the views and opinions of other team members including negotiating skills * evaluate performance as an individual and a team member; evaluate the performance of others | Primary:  Lectures  Seminars  Guided independent study  Workshops  Secondary/Supplementary:  Guided practical and laboratory experience  Guest lectures and visits  Attendance at Cornwall College Newquay Research and Scholarly day  Work placement | A2, A3, A5 | LO1, LO7 | Posters  Presentations and digital displays  Personal evaluation  Viva voce  Management plan | ALL CORE MODULES |
| **An exposition for embedding Key Transferable Skills through Teaching & Learning and Assessment at this level of the programme:**  The learner can work effectively with others as members of a group and meet obligations to others; they can work within an appropriate ethos and can access and use a range of learning resources; they can evaluate their own strengths and weaknesses within criteria largely set by others; they can manage information, collect appropriate data from a range of sources and undertake simple research tasks with external guidance; they can take responsibility for their own learning with appropriate support; they can communicate effectively and report practical procedures in a clear and concise manner; they can apply given tools / methods accurately and carefully to a well-defined problem and appreciate the complexity of the issues in the discipline. | | | | | |
| **Employment Related Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** |  |  |  |  |  |
| By the end of this level of this programme the students will be able to demonstrate the skills necessary for self-managed and lifelong learning (eg working independently, time management, organisational, enterprise and knowledge transfer skills)  A threshold pass:   * be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident * have developed basic strategies to enable them to update their knowledge of the biosciences * develop an adaptable, flexible and effective approach to study and work | Primary:  Self-directed voluntary work  Compulsory work experience  Independent guided workshops  Secondary/Supplementary:  Guest seminars and lectures  Study groups and supplementary group tasks/ research activities | A1, A2, A3, A4, A5 | LO2, LO3, LO6, LO7 | Poster presentations  Reflective summary  Personal evaluations | **Level 5**  CORN275: Zoological Conservation in Practice |
| **An exposition for embedding Employment Related Skills through Teaching & Learning and Assessment at this level of the programme:**  The learner has demonstrated an understanding of organisational and work based practices; they have out theory in to practice by applying and developing discipline relates skills, knowledge and understanding. | | | | | |
| **Practical Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** |  |  |  |  |  |
| By the end of this level of this programme the students will be able to demonstrate the ability to design, plan, conduct and report on investigations, which may involve primary or secondary data (eg from a survey database). These data may be obtained through individual or group projects.  A threshold pass:   * be able to record data accurately, and to carry out basic manipulation of data (including qualitative data and some statistical analysis, when appropriate) * be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident * have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses | Primary:  Lectures  Independent guided study  Practical workshops  Research tutorials  Secondary/Supplementary:  Visits to Electron Microscope and MBA  Guest workshops run by ecological consultants and specialists  Additional lecture information available on VLE- moodle | A1, A2, A4, A5 | LO3, LO5, LO6 | Reports  Presentations  Assessed practicals  In class tests  Exams | **Level 5**  CORN275: Zoological Conservation in Practice  CORN274: Biosecurity and Invasive Species  CORN273: Population Genetics and Community Ecology |
| By the end of this level of this programme the students will be able to demonstrate the ability to design, plan, conduct and report on investigations, which may involve primary or secondary data (eg from a survey database). These data may be obtained through individual or group projects.  A threshold pass:  • be able to record data accurately, and to carry out basic manipulation of data (including qualitative data and some statistical analysis, when appropriate).  • be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident.  • have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses. | Primary:  Lectures  Independent guided study  Practical workshops  Research tutorials  Secondary/Supplementary:  Visits to Electron Microscope, MBA  Guest workshops run by ecological consultants and specialists.  Additional lecture information available on VLE- Moodle | A1, A2, A4, A5 | LO3, LO5, LO6 | Reports, presentations, assessed practicals, in class tests, exams | **Level 5**  CORN275: Zoological Conservation in practice  CORN274: Biosecurity and Invasive Species  CORN273: Population Genetics and Community Ecology |
| By the end of this level of this programme the students will be able to undertake field and/or laboratory investigations of living systems in a responsible, safe and ethical manner. For example, students must pay due attention to risk assessment, relevant health and safety regulations, issues relating to animal welfare and procedures for obtaining informed consent. They should show sensitivity to the impact of investigations on the environment, on the organisms or subjects under investigation, and on other stakeholders.  A threshold pass:  • appreciate the interactions of organisms with each other and the environment  • have some understanding of ethical issues and the impact on society of advances in the biosciences  • have developed basic strategies to enable them to update their knowledge of the biosciences. | Primary:  Lectures  Independent guided study  Practical workshops  Research tutorials  Secondary/Supplementary:  Additional lecture information available on VLE- Moodle.  Information through Home Office, RSPCA, ethical review process | A1, A3, A4, A5 | LO2, LO3, LO5, LO6 | Reports, presentations, assessed practicals, in class tests, exams | **Level 5**  CORN275: Zoological Conservation in practice  CORN274: Biosecurity and Invasive Species  CORN273: Population Genetics and Community Ecology |
| **An exposition for embedding Practical Skills through Teaching & Learning and Assessment at this level of the programme:**  Learners will have demonstrated an ability to apply practical skills developed within the course to a wide variety of industry related scenarios and will be required to complete a range of practical based skills assessments throughout this unit. | | | | | |

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| --- | --- | --- | --- | --- | --- |
| **Level 6: BSc (Hons) Applied Zoology and Conservation** | | | | | |
| **Definitions of Graduate Attributes and Skills Relevant to this Programme** | **Teaching and Learning Strategy / Methods** | **Prog Aims** | **Prog intended Learning Outcomes** | **Range of Assessments** | **Related Core Modules** |
| **Knowledge / Understanding:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)**  Engagement with the essential facts, major concepts, principles and theories associated with the chosen discipline. Knowledge of the processes and mechanisms that have shaped the natural world in terms, for example, of the spread of time from the geological to the present and of complexity from the environmental to the cellular. The influence on living systems of human activities (and the converse) could also be considered  Threshold standard:   * Describe how organisms are classified and identified. * Describe mechanisms for the life processes and appreciate how the physiology of an organism fits its environment. * Describe the place of the organisms studied in the living world. * have an understanding of the explanation of biological phenomena at a variety of levels (from molecular to ecological systems) and be able to explain how evolutionary theory is relevant to their area of study. * demonstrate awareness of human interactions with natural populations and ecosystems, including habitat modification, pollution, exploitation and conservation. | Primary:  Lectures and tutorials  Practical laboratory and husbandry sessions  Industry visits  Guided independent study  Learning from extended work placements  Secondary/Supplementary:  Site visits to animal collections, Natural History Museum, Eden Project.  Additional lecture information available on VLE- Moodle. | A1, A3, A4, A5 | LO1, LO2, LO3, LO6 | Essays  In class tests  Exams  Management plans  Reports  Poster/ presentations | **Level 6**  CORN315: Conservation Genetics |
|  |  |  |  |  |  |
| Competence in the basic experimental skills appropriate to Zoology and Conservation.  Threshold standard:   * have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses | Primary:  Lectures  Independent guided study  Practical workshops  Secondary/Supplementary:  Site visits to Electron Microscope, MBA  Guest workshops run by ecological consultants and specialists.  Additional lecture information available on VLE- Moodle. | A1, A4, A5 | LO3, LO4, LO8 | Reports  Assessed practicals  In class tests  Exams | **Level 6**  CORN310: Honours Project  CORN314: Conservation Project Management |
| By the end of this level of this programme the students will be able to demonstrate a knowledge of a range of communication techniques and methodologies relevant to zoology and conservation, including data analysis and the use of statistics.  Threshold standard:   * be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study | Primary:  Independent guided study  Practical workshops  Group seminars/ group work  Secondary/Supplementary: Research seminars  Additional lecture information available on VLE- Moodle. | A1, A2, A5 | LO2, LO3 | Essays  Management plans  Reports  Poster/  presentations | **Level 6**  CORN310: Honours Project  CORN314: Conservation Project Management |
| **An exposition for embedding Knowledge and Understanding through Teaching & Learning and Assessment at this level of the programme:**  The learner has demonstrated a given factual and/or conceptual knowledge base with emphasis on the nature of the field of study and appropriate terminology and can demonstrate awareness of ethical issues associated with the subject. | | | | | |
| **Cognitive and Intellectual Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** |  |  |  |  |  |
| By the end of this level of this programme the students will be able to demonstrate an appreciation of the complexity and diversity of life processes through the study of organisms, their molecular, cellular and physiological processes, their genetics and evolution, and the interrelationships between them and their environment.  A threshold pass:   * describe the structure, diversity and reproduction of the organisms studied * describe basic organism structure and diversity * describe mechanisms for the life processes and appreciate how the physiology of an organism fits it for its environment show knowledge of the basic genetic principles relating to, and evolution of, the organisms studied * Describe the place of the organisms studied in the living world. * appreciate the importance of the 'behaviour' of the organisms studied. * demonstrate knowledge of biogeochemical cycles and pathways * describe and exemplify nutrient and energy flow through individuals, populations and communities * describe and exemplify patterns of distribution of organisms in relation to biotic and abiotic factors * demonstrate knowledge of population processes, dynamics and interactions, and associated theoretical models * demonstrate knowledge of community structure, development, biodiversity, and associated theoretical models * demonstrate awareness of human interactions with natural populations and ecosystems, including habitat modification, pollution, exploitation and conservation | Primary:  Lectures  Independent guided study  Practical workshops  Group seminars/group work  Secondary/Supplementary:  Research seminars  Additional lecture information available on VLE- Moodle. | A1, A4, A5 | LO4, LO5, LO6 | Essays  Management plans  Reports  Poster/  presentations | ALL CORE MODULES |
| By the end of this level of this programme the students will be able to demonstrate the ability to read and use appropriate literature with a full and critical understanding, while addressing such questions as content, context, aims, objectives, quality of information, and its interpretation and application.  Threshold standard:   * be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study. | Primary:  Lectures  Independent guided study  Practical workshops  Group seminars  Secondary/Supplementary:  Additional information and tasks available on VLE- Moodle | A1, A2, A4, A5 | LO2, LO3, LO6 | Literature reviews  Essay  Reports  Presentations. | **Level 6**  CORN306: Applications of Zoology  CORN310: Honours Project |
| By the end of this level of this programme the students will be able to demonstrate the ability to think independently, set tasks and solve problems.  Threshold standard:   * have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses | Primary:  Independent guided study  Practical workshops  Secondary/Supplementary:  Additional information and tasks available on VLE- Moodle | A1, A2, A4, A5 | LO2, LO3, LO6 | Assessed practicals  In class tests  Exams  Project report and presentations | **Level 6**  CORN306: Applications of Zoology  CORN310: Honours Project |
| By the end of this level of this programme the students will be able to demonstrate, analyse, synthesise and summarise information critically, including published research or reports.  Threshold standard:   * be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study | Primary:  Lectures  Independent guided study  Practical workshops  Group seminars  Secondary/Supplementary:  Additional information and tasks available on VLE- Moodle | A1, A2, A4, A5 | LO2, LO3, LO6 | Literature reviews  Essays  Reports  Presentations | **Level6**  CORN306: Applications of Zoology  CORN310: Honours Project |
| By the end of this level of this programme the students will be able to demonstrate obtain and integrate several lines of subject-specific evidence to formulate and test hypotheses.  Threshold standard:   * be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident | Primary:  Lectures  Independent guided study  Practical workshops  Group seminars  Secondary/Supplementary:  Additional information and tasks available on VLE- Moodle | A1, A2, A4, A5 | LO1, LO2, LO3, LO5, LO6 | Reports  Presentations  Practical workshops  Assessed practicals | **Level 6**  CORN310: Honours Project  CORN306: Applications of Zoology  CORN314: Conservation Project Management |
| By the end of this level of this programme the students will be able to demonstrate recognise the moral and ethical issues of investigations and appreciate the need for ethical standards and professional codes of conduct.  Threshold standard:   * have some understanding of ethical issues and the impact on society of advances in the biosciences | Primary:  Lectures  Independent guided study  Practical workshops  Secondary/Supplementary:  Visits to collections and such as Natural History Museum, Paignton Zoo, Dartmoor Zoo | A1, A3, A5 | LO1, LO2 | Debate  Reports  Presentations | **Level 6**  CORN310: Honours Project  CORN306: Applications of Zoology  CORN314: Conservation Project Management |
| **An exposition for embedding Cognitive and Intellectual Skills through Teaching & Learning and Assessment at this level of the programme:**  The learner has demonstrated the ability to analyse with guidance given classifications/guidance, can collect and categorise ideas and information in a predictable and standard format, can evaluate the reliability of data using defined techniques and/or tutor guidance and can apply given tools/methods accurately and carefully to a well-defined problem and begin to appreciate the complexity of the issues. | | | | | |
| **Key Transferable Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** |  |  |  |  |  |
| By the end of this level of this programme the students will be able to communicate about their subject appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language.  A threshold pass:   * be able to access bioscience information from a variety of sources and to communicate the principles in a manner appropriate to the programme of study * recognise and respect the views and opinions of other team members including negotiating skills * evaluate performance as an individual and a team member; evaluate the performance of others | Primary:  Lectures  Seminars  Guided independent study  Workshops  Secondary/Supplementary:  Guided practical and laboratory experience  Guest lectures and visits  Attendance at Cornwall College Newquay Research and Scholarly day  Work placement | A2, A3, A5 | LO1, LO7 | Posters  Presentations and digital displays  Personal evaluation  Viva voce  Management plan | ALL CORE MODULES |
| **An exposition for embedding Key Transferable Skills through Teaching & Learning and Assessment at this level of the programme:**  The learner can work effectively with others as members of a group and meet obligations to others; they can work within an appropriate ethos and can access and use a range of learning resources; they can evaluate their own strengths and weaknesses within criteria largely set by others; they can manage information, collect appropriate data from a range of sources and undertake simple research tasks with external guidance; they can take responsibility for their own learning with appropriate support; they can communicate effectively and report practical procedures in a clear and concise manner; they can apply given tools / methods accurately and carefully to a well-defined problem and appreciate the complexity of the issues in the discipline. | | | | | |
| **Employment Related Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** |  |  |  |  |  |
| By the end of this level of this programme the students will be able to demonstrate the skills necessary for self-managed and lifelong learning (eg working independently, time management, organisational, enterprise and knowledge transfer skills)  A threshold pass:   * be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident * have developed basic strategies to enable them to update their knowledge of the biosciences * develop an adaptable, flexible and effective approach to study and work | Primary:  Self-directed voluntary work  Compulsory work experience  Independent guided workshops  Secondary/Supplementary:  Guest seminars and lectures  Study groups and supplementary group tasks/ research activities | A1, A2, A3, A4, A5 | LO2, LO3, LO6, LO7 | Poster presentations  Reflective summary  Personal evaluations | **Level 6**  CORN314: Conservation Project Management |
| **An exposition for embedding Employment Related Skills through Teaching & Learning and Assessment at this level of the programme:**  The learner has demonstrated an understanding of organisational and work based practices; they have out theory in to practice by applying and developing discipline relates skills, knowledge and understanding. | | | | | |
| **Practical Skills:**  For this **bachelor level** programme the following has been informed by the QAA Subject Benchmark(s): **Bioscience (2007)** |  |  |  |  |  |
| By the end of this level of this programme the students will be able to demonstrate the ability to design, plan, conduct and report on investigations, which may involve primary or secondary data (eg from a survey database). These data may be obtained through individual or group projects.  A threshold pass:   * be able to record data accurately, and to carry out basic manipulation of data (including qualitative data and some statistical analysis, when appropriate) * be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident * have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses | Primary:  Lectures  Independent guided study  Practical workshops  Research tutorials  Secondary/Supplementary:  Visits to Electron Microscope and MBA  Guest workshops run by ecological consultants and specialists  Additional lecture information available on VLE- moodle | A1, A2, A4, A5 | LO3, LO5, LO6 | Reports  Presentations  Assessed practicals  In class tests  Exams | **Level 6**  CORN310: Honours Project  CORN314: Conservation Project Management |
| By the end of this level of this programme the students will be able to demonstrate the ability to design, plan, conduct and report on investigations, which may involve primary or secondary data (eg from a survey database). These data may be obtained through individual or group projects.  A threshold pass:  • be able to record data accurately, and to carry out basic manipulation of data (including qualitative data and some statistical analysis, when appropriate).  • be able to plan, execute and present an independent piece of hypothesis-driven work (eg a project) within a supported framework in which qualities such as time management, problem solving, and independence are evident.  • have ability in a range of practical bioscience techniques, including data collection, analysis and interpretation of those data, and testing of hypotheses. | Primary:  Lectures  Independent guided study  Practical workshops  Research tutorials  Secondary/Supplementary:  Visits to Electron Microscope, MBA  Guest workshops run by ecological consultants and specialists.  Additional lecture information available on VLE- Moodle | A1, A2, A4, A5 | LO3, LO5, LO6 | Reports, presentations, assessed practicals, in class tests, exams | **Level 6**  CORN310: Honours project  CORN314: Conservation Project Management |
| By the end of this level of this programme the students will be able to undertake field and/or laboratory investigations of living systems in a responsible, safe and ethical manner. For example, students must pay due attention to risk assessment, relevant health and safety regulations, issues relating to animal welfare and procedures for obtaining informed consent. They should show sensitivity to the impact of investigations on the environment, on the organisms or subjects under investigation, and on other stakeholders.  A threshold pass:  • appreciate the interactions of organisms with each other and the environment  • have some understanding of ethical issues and the impact on society of advances in the biosciences  • have developed basic strategies to enable them to update their knowledge of the biosciences. | Primary:  Lectures  Independent guided study  Practical workshops  Research tutorials  Secondary/Supplementary:  Additional lecture information available on VLE- Moodle.  Information through Home Office, RSPCA, ethical review process | A1, A3, A4, A5 | LO2, LO3, LO5, LO6 | Reports, presentations, assessed practicals, in class tests, exams | **Level 6**  CORN310: Honours Project  CORN314: Conservation Project Management |
| **An exposition for embedding Practical Skills through Teaching & Learning and Assessment at this level of the programme:**  Learners will have demonstrated an ability to apply practical skills developed within the course to a wide variety of industry related scenarios and will be required to complete a range of practical based skills assessments throughout this unit. | | | | | |

**Structure Diagram**

**College: Cornwall College 2707**

**Year: 2014/15**

**PU Course Code:**

**Programme: BSc (Hons) Applied Zoology and Conservation**

**Mode of Attendance: Full Time**

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| --- | --- | --- | --- |
| **Stage 1** | | | |
| **Module Code** | **Module Title** | **No. of Credits** | **Core / Optional** |
| CORN115 | Diversity, Classification & Evolution | 20 | Core |
| CORN154 | Hygiene, Health and Welfare of Captive Animals | 20 | Core |
| CORN162 | Key Professional Skills | 20 | Core |
| CORN163 | Animals and their Environment | 20 | Core |
| CORN171 | Introduction to Zoology | 20 | Core |
| ZOO6 | Fieldwork | 20 | Core |
| **Stage 2** | | | |
| **Module Code** | **Module Title** | **No. of Credits** | **Core / Optional** |
| CORN272 | Vertebrate Zoology | 20 | Core |
| CORN273 | Population Genetics and Community Ecology | 20 | Core |
| CORN274 | Biosecurity and Invasive Species | 20 | Core |
| CORN275 | Zoological Conservation in Practice | 20 | Core |
| CORN276 | Research Methods and GIS for Zoology | 20 | Core |
| **Students must choose 1 of the following optional modules:** | | | |
| CORN213 | Behavioural Ecology | 20 | Optional |
| CORN270 | Marine Vertebrate Biology and Conservation | 20 | Optional |
| CORN271 | Advanced Ecology and Survey Techniques | 20 | Optional |
| CORN278 | Primate Behaviour and Conservation | 20 | Optional |
| **Stage 3** | | | |
| **Module Code** | **Module Title** | **No. of Credits** | **Core / Optional** |
| CORN306 | Applications of Zoology | 20 | Core |
| CORN310 | Honours Project | 40 | Core |
| CORN314 | Conservation Project Management | 20 | Core |
| CORN315 | Conservation Genetics | 20 | Core |
| CORN326 | Placement Project | 0 | Core |
| **Students must choose 1 of the following optional modules:** | | | |
| CORN304 | Zoology and Conservation of Aquatic Ecosystems | 20 | Optional |
| CORN313 | Wildlife Conservation | 20 | Optional |
| CORN316 | Monitoring Marine Ecosystems | 20 | Optional |

# Module Records

**SECTION A: DEFINITIVE MODULE RECORD**

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| --- | --- |
| **MODULE CODE:** CORN115 | **MODULE TITLE:** Diversity, Classification and Evolution |

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| **CREDITS:** 20 | **FHEQ Level:** 4 | **JACS CODE:** D300 |
|  |  |  |
| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module provides an introduction to the main characteristics of different forms of life on Earth and how they evolved. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) | 40% | **C1** | 60% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To provide a foundation for a more detailed study of the biology of specific groups of animals. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Demonstrate a working knowledge of taxonomy and classification and use of biological keys 2. Explain the concept of neo-Darwinism and adaption through evolution. 3. Describe the main features of different forms of life on Earth |

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| --- | --- | --- | --- |
| **DATE OF APPROVAL:** | 01/09/13 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/13 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 14/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| --- | --- |
| **ACADEMIC YEAR:** 2014-15 | **NATIONAL COST CENTRE:** |

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| **MODULE LEADER:** Samantha Hammond | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Introduction to life on Earth and main invertebrate and vertebrate phyla. Reference collections. Identification keys. Fundamentals of taxonomy and classification. History of evolutionary thought; castastrophism; lamarkism; neo-Darwinism, cladogenesis. Fossil records and mass extinctions. Scientific theories on the origins of life; RNA world hypothesis. Biological illustrations. Adaptive radiation; convergent evolution. Phylogenetic and evolutionary relationships of major plant, invertebrate and vertebrate groups. |

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| --- | --- | --- |
| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 30 | Key features of various invertebrate and vertebrate phyla. Theories on evolution and origins of life. |
| Practical classes and workshops | 30 | Workshops on taxonomy, speciation and evolution. |
| Fieldwork | 8 | Field trip to Eden Project |
| Guided independent study | 132 | Moodle activities to consolidate theory and practical sessions. Guided reading. |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 | Examination | 100%  **Total = 100%** | Covering concepts of adaption though evolution, and differing features of various forms of life (LO2, LO3) |
| T1 |  | 0% |  |
| Coursework | C1 | Portfolio | 100%  **Total = 100%** | Portfolio of short tasks based on fieldwork, seminars and practicals: LO1, LO3 |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** Feb 2014 | **Approved by:** R.Martin | **Date:** Feb 2014 |

**READING LIST:**

Reece, J.B, Urry, L.A, Cain, M.L & Wasserman, S. A., Minorsky, P.V. & Jackson, R.B., 2011. *Campbell biology.* 9th ed. Harlow: Pearson Education Limited.

Ruppert, E.E., Fox, R. & Barnes, R. D., 2003. *Invertebrate zoology: a functional evolutionary approach. 7th ed*. California: Thomson Brooks/Cole.

Stearns, S. T. & Hoekstra, R. F., 2005. *Evolution: an introduction*. 2nd ed. Oxford University Press, Oxford.

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN154 | **MODULE TITLE:** Hygiene, Health and Welfare of Captive Animals |

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| **CREDITS:** 20 | **FHEQ Level:** 4 | **JACS CODE:** D300 |
|  |  |  |
| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module gives students an understanding of the conditions needed to maintain health in captive animals and how to detect ill health. Special consideration is given to the role of the immune system and psychological well-being in fighting disease, and the importance of the five freedoms in captive animals to maintain good health. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 50% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) | 50% | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To provide students with experience of good hygiene practice when handling animals, and the knowledge to provide appropriate care to maintain good health in animals and to detect signs of ill health when it occurs. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Explain what is meant by physical and psychological well-being of animals in captivity. 2. Describe how preventative care can ensure the good health of animals in captivity. 3. Understand the principles of good practice required to maintain welfare of exotic animals in captivity. 4. Recognise a range of diagnostic and health-screening |

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| **DATE OF APPROVAL:** | April 2009 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/10 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 14/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2014-15 | **NATIONAL COST CENTRE:** 110 |

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| **MODULE LEADER:** Imogen Michaux | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Main parameters for healthy and diseased animals (including behaviours).An outline of the immune system in vertebrates & invertebrates. Zoonoses. Basic parasitology. Monitoring and controlling levels of stress. The “Five Freedoms” concept. First Aid for Wild Animals. Animal handling and restraint; risk assessments. Quarantine systems. Transporting animals safely. Pest control. Accommodation: cleaning and disinfection. Relevant legislation (e.g. Zoo Licensing Act) Ethical responsibilities for those caring for animals in captivity. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 30 | Theory to cover animal immunity, disease transmission, and parasitology. Legislation and welfare considerations of animals in captivity |
| Practical classes and workshops | 38 | Trips to Cornwall Seal Sanctuary, Screech Owl Sanctuary, practical sessions on animal nursing, and rehabilitation. |
| Guided independent study | 132 |  |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 | In Class Test | 100%  **Total = 100%** | Immunity, zoonosis, parasites, pest control, first aid, legislation (LO1, LO2, LO4) |
| Coursework | C1 | Evaluative Poster | 100%  **Total = 100%** | Evaluative poster regarding SSSMZP (LO1, LO2, LO3) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** Jan 2014 | **Approved by:** R.Martin | **Date:** Feb 2014 |

**READING LIST:**

Ackerman, L. ed., 1998. *The biology, husbandry & health care of reptiles: volume 1, 2 and 3.* New Jersey: T.F.H. Publications.

Blood, D.C & Studdert, V.P 2012. *Saunders comprehensive veterinary dictionary.* 4th ed.Oxford. Saunders Ltd.

DEFRA, 2012. *Secretary of State’s Standards of Modern Zoo Practice*. Bristol: Department for Environment, Food and Rural Affairs. (online)

Hosey, G.R., Melfi, V. & Pankhurst, S. 2013. Zoo animals: behaviour, management and welfare. 2nd ed. Oxford: Oxford University Press.

Kleiman, D., 2010) *Wild mammals in captivity*. 2nd ed. Chicago: University of Chicago Press

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN162 | **MODULE TITLE:** Key Professional Skills |

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| **CREDITS:** 20 | **FHEQ Level:** 4 | **JACS CODE:** X900 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  The aim of this module is to equip students with the necessary knowledge and skills to develop themselves in terms of their personal and employability skills. The module will be taught in a series of blocks covering ICT, website design and social media as well as more subject specific blocks relating to current techniques and equipment being used in practice. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 70% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) | 30% | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**   * To equip students with the necessary knowledge and skills to develop themselves in terms of their academic, personal and employability skills. * To introduce latest developments in scientific techniques used in practise. * To develop confidence in data handling and ICT use. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Demonstrate a range of independent learning skills, including information retrieval, presentation methods, and academic writing 2. Demonstrate understanding of concepts relating to personal, employability skills and work related skills. 3. Communicate effectively the application of a discipline specific technique. 4. Apply appropriate descriptive statistics to present data with the use of relevant software. |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 14/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2014-15 | **NATIONAL COST CENTRE:** 135 |

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| **MODULE LEADER:** Brender Willmott | **OTHER MODULE STAFF:** Angus Jackson, Rob Mansfield, Jo Vosper |

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| **SUMMARY of MODULE CONTENT**  Block 1: Professional development: career action plans, SWOT analysis, Intra/ Interpersonal skills, problem-solving, decision making, teamwork, initiative, self-esteem, leadership, innovation, creativity and enterprise, successful communication - Interview skills, CVs and letters of application, self-presentation, presentation of information.  Block 2: ICT and data handling: data types – qualitative, quantitative, suitable summative (measures of central tendency and error), presentation techniques, spreadsheets, data input, cell references, formula, creation of charts.  Block 3: Subject specific techniques – introduction to current developments and technological advances in survey and investigative methods in relevant subject area, guest speakers, student led seminars. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Tutorials | 10 | Small group tutorials to develop PDP’s and academic skills |
| Seminars and workshops | 60 | Workshop sessions where students are supported to apply learning to themselves and their specific industry. |
| Guided independent study | 130 | Students are expected to put in time outside of taught sessions on the group project and their own personal development and career planning |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 | In Class Test | 100%  **Total = 100%** | LO4 - test on basic statistics |
| Coursework | C1 | Current techniques in zoology  Mock application and interview | 50%  50%  **Total = 100%** | LO1, LO3 – group presentation of current technique in zoology  LO2 - mock application and interview for relevant position |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Barnard, C., Gilbert, F. & McGregor, P., 2011. *Asking questions in biology*. 4th ed. Harlow: Pearson Education Limited.

Bott, E. (Author.) and Siechert, C. (Author.) (2011) *Microsoft Office 2010 inside out*. Farnham: Microsoft. (Inside out; Inside out (Redmond, Wash.)).

Bradbury, A., 2010. *Successful presentation skills*. 4th edn. London: Kogan Page.

Carlberg, C.G. (Author.) (2011) *Statistical analysis : Microsoft Excel 2010*. Indianapolis, Ind.: Que.

Divan, A., 2009. *Communication skills for the biosciences : a graduate guide*. Oxford: Oxford University Press.

Hall, R., 2009. *Brilliant presentation: what the best presenters know, do and say*. 2nd ed. London: Pitman Publishing.

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN163 | **MODULE TITLE:** Animals and their Environment |

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| **CREDITS:** 20 | **FHEQ Level:** 4 | **JACS CODE:** C180 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  Delivering a basic understanding of how animals interact with their environment, utilising basic behaviour techniques observing animals in their environment; the varied programme introduces students to ecological principles, including population dynamics and interrelationships. Students will use the information gained through animal and field observation to further understand habitat utilisation and quality. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 50% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) | 50% | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To provide the learner with an understanding of how the animal interacts, utilises and depends on its natural environment. By the end of the module learners will have a good understanding of the ecology of the habitat, and have developed methods to assess the quality of the ecosystem including the animal populations living within it. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Undertake different types of behavioural recording. 2. Demonstrate the importance of inter and intra-specific relationships within ecosystems, and the concept and function of food webs. 3. Interpret data related to energy flow and nutrient cycling, and the interaction between biotic and abiotic factors in an ecosystem. 4. Explain the concepts in animal behaviour and ecological principles and their effect on current environmental practice. |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 14/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2014-15 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Katherine Cooper | **OTHER MODULE STAFF:** Samantha Hammond |

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| **SUMMARY of MODULE CONTENT**  • Measuring behaviour – recording methods.  • Behaviour – communication, social interaction, hierarchy, territoriality and courtship.  • Behavioural models and theories – optimality, selfish gene theory.  • Psychology – sentience and self-awareness.  • Identify the key features and components of food webs and energy flow  • Understand the ecological niche, the population growth curve and limiting factors  • Competition, predation, parasitism and symbiosis |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 10 | Principles of behaviour and ecology, ecosystem functioning |
| Practical classes and workshops | 20 | Introductory workshops at Newquay Zoo carrying out animal observations |
| Fieldwork | 30 | Habitat survey and in-situ animal observation |
| Guided independent study | 140 | Moodle activities to consolidate theory and practical sessions and guided reading for module topics |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 | In-class test – knowledge of concepts in animal behaviour | 100%  **Total = 100%** | LO2, LO3 |
| Coursework | C1 | Observations and behavioural study | 100%  **Total = 100%** | LO1, LO4 |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Alcock, J., 2013. *Animal behavior*. 10th ed. Massachusetts: Sinauer Publishers.

Begon, M., Townsend, C.R. & Harper, J.L., 2005*. Ecology: from individuals to ecosystems*. Oxford: Blackwell Science.

Colinvaux, P., 1993. *Ecology 2*. New York: John Wiley and Sons, Inc.

Davies, N.B, Krebs, J. & West, S., 2012 *Introduction to behavioural ecology.* 4th ed. Oxford: Wiley-Blackwell.

Krebs, C.J., 2008. *Ecology: the experimental analysis of distribution and abundance*. 6th ed. London: Benjamin Cummings Publishing.

Manning, A. & Dawkins, M.S., 2012. *An introduction to animal behaviour*. *6th ed.* Cambridge: Cambridge University Press.

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN171 | **MODULE TITLE:** Introduction to Zoology |

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| **CREDITS:** 20 | **FHEQ Level:** 4 | **JACS CODE:** C300 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module provides students with an understanding of the key scientific concepts and practical skills which underpin the study of zoological conservation. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 70% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) | 30% | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**   * To provide students with the basic scientific skills and knowledge to carry out a laboratory-based scientific investigation safely and effectively, with an understanding of some key scientific concepts which underpin other modules. * To provide students with the knowledge of basic anatomical and physiological features of animals. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Explain how specific homeostatic processes enable organisms to survive. 2. Describe basic biological concepts of cells, tissues and organs and their importance to the whole organism. 3. Classify the main groups of biological molecules and relate their structure to function. 4. Use a range of standard laboratory equipment safely and effectively to make observations and take quantitative measurements, recorded using appropriate SI units. |

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| **DATE OF APPROVAL:** | 01/06/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 14/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2014-15 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Andrew Golley | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Basic chemistry of biological molecules (water, carbohydrates, fats and proteins). Basic biology to include structure and function of the main parts of a typical animal and plant cell; movement in and out of cells (diffusion, facilitated diffusion, active transport and osmosis). Microscopy. Elementary physiology: homeostasis in relation to temperature regulation and osmoregulation; outline description of nervous, endocrine, excretion, osmoregulation, circulation, musculature, skeletal and respiratory systems. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | | |
| **Scheduled Activities** | **Hours** | | **Comments/Additional Information** |
| Lectures | 40 | Covering theory of molecular and cellular biology, basic biochemistry and animal organ systems. | |
| Practical classes and workshops | 50 | Laboratory practical sessions to demonstrate biochemical activity, organ dissections, and basic physiology | |
| Guided Independent Study | 110 | Moodle activities to further consolidate theory and practical sessions, guided reading for module topics | |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) | |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 | In Class Test | 100%  **Total = 100%** | Basic concepts of biological chemistry, cell biology and genetics (LO1, LO2, LO3) |
| Coursework | C1 | Short Communication  Report | 40%  **60%**  **Total = 100%** | Completion of laboratory investigation, and reporting the findings as a short communication (LO1, LO2, LO4)  Report to investigate the organ systems and homeostatic processes of a named species (LO1 & LO2) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** A.Golley | **Date:** Feb 2014 | **Approved by:** R.Martin | **Date:** Feb 2014 |

**READING LIST:**

Jones, A. Reed, R. Weyers, J. 2012. P*ractical skills in biology*. 5th ed. Harlow: Pearson Education Limited.

Kent, M. 2013. Advanced biology. 2nd ed. Oxford: Oxford University Press.

Morgan, J. G. and Brown Carter, M. E. 2011. *Investigating biology: laboratory manual.* 7th ed. London: Benjamin Cummings

Reece, J. Urry, L. Cain, M. Wasserman, S. Minorsky, P. Jackson, R. 2010. *Campbell Biology* (9th ed.) Harlow: Pearson Education

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** ZOO6 | **MODULE TITLE:** Fieldwork |

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| **CREDITS:** 20 | **FHEQ Level:** 4 | **JACS CODE:** C300 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module equips students with the skills and knowledge to carry out field work using appropriate techniques, data handling and analyses, and effective communication of ecological information. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 100% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To provide students with the practical skills to carry out field work safely and effectively. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Carry out field work safely and ethically identifying and measuring the key abiotic factors 2. Use identification keys 3. Apply standardised techniques to sample organisms and estimate population density 4. Demonstrate that information derived from field work can be communicated in a variety of formats 5. Carry out basic statistical techniques to analyse field work results |

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| **DATE OF APPROVAL:** | June 2003 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/03 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | 01/09/13 | **TERM:** | 14/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2014-15 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Katherine Cooper | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Risk assessments for field work. Ethical issues related to field work. Sampling procedures; importance of random sampling techniques. Identification keys. Radio and satellite tracking. Basic practical field craft, including observation and tracking. Trapping pitfall and mammal traps). Standard techniques for measuring environmental factors: temperature, wind, relative humidity, light, pH salinity, water flow rate, oxygen levels, edaphic factors. Biotic indices. Recording and presenting field work data (e.g. in sketches, photographs, tables, graphs, maps and diagrams. Use of basic parametric and non-parametric statistical techniques, to include chi squared test, student t test, Mann-Whitney test, and Spearman rank correlation. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 20 | Covering the theory behind sampling design. Introduction to basic data collection, handling and analysis |
| Practical classes and workshops | 40 | Effective data recording, data handling and presentation to include summary statistics, basic inferential statistics. |
| Fieldwork | 30 | An introduction to ecological survey techniques- to include habitat, invertebrate and vertebrate surveys. |
| Guided independent study | 110 | Moodle activities to consolidate theory and practical sessions, and guided reading. |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 |  | 0% |  |
| Coursework | C1 | Management Plan  Scientific Report | 30%  70%  **Total = 100%** | Production of management plan (LO1, LO4, LO5)  Write up of fieldwork practical (LO1, LO2, LO3, LO4, LO5) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** Jan 2014 | **Approved by:** R.Martin | **Date:** Feb 2014 |

**READING LIST:**

Atkinson, M., 2000. *A handbook for biological recorders*. Truro: Environmental Records Centre for Cornwall and the Isles of Scilly.

Brower, J.E., Zar, J.H., & von Ende, C.N., 1998. *Field and laboratory methods for general ecology*. 4th ed. Boston: McGraw Hill.

Dytham, C., 2010. *Choosing and using statistics – a biologists guide*. 3rd ed. Oxford: Blackwell Publishing.

Gibbons, B., 2008. *Seashore of Britain and Europe*. London: New Holland.

Harris, E., Yalden D.W. Troughton, G. 2008. *Mammals of the British Isles: Handbook,* 4th Ed. Mammal Society

Morrison, L., Block, W.M., Strickland, M.D., Colier, B.A. & Peterson, M.J., (2010) *Wildlife study design*. 2nd ed. New York: Springer.

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN272 | **MODULE TITLE:** Vertebrate Zoology |

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| **CREDITS:** 20 | **FHEQ Level:** 5 | **JACS CODE:** C300 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module introduces students to the anatomy and physiology of vertebrates and explains the inter-relationship of the systems for homeostatic control. Various practical investigations are undertaken in the laboratory at Newquay. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) | 40% | **C1** | 60% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To provide an understanding of the biology of vertebrates, their anatomy, physiology and relate this to function, and role within the ecosystem. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Evaluate the anatomy and physiology of the main vertebrate body systems, their inter-relationships and their homeostatic roles 2. Compare and contrast the functional ecology of a range of named vertebrates 3. Assess the adaptive significance of life history strategies, reproductive physiology and behaviour of animals from a range of vertebrate taxa. |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 15/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2014-15 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Jason Birt | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**   * Structure and function of vertebrate anatomy, including histological structure of a range of tissues. * Investigate vertebrate body systems and their role in homeostasis i.e. nervous; sensory; the integument; respiratory; circulatory; digestive; hepatic, excretory and osmoregulatory; endocrine; reproductive. * Anatomy and physiology of main body and adaptations to particular environments; * Reproductive strategies and life histories of various taxa |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 20 | Vertebrate anatomy- covering key vertebrate body systems |
| Practical classes and workshops | 40 | Observation of comparative dissections, visits to observe varying animal form, conduct organ dissections. |
| Seminar | 10 | Discuss species adaptations to particular environments |
| Guided independent study | 130 | Research in preparation for seminars and dissections. Moodle tasks, guided reading. |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 | Examination | 100%  **Total = 100%** | Relating animal anatomy to function (LO1, LO2, LO3) |
| T1 |  | 0% |  |
| Coursework | C1 | Report | 100%  **Total = 100%** | Using named examples to demonstrate evolution of animal form and function in relation to adaptations to environment (LO1, LO3) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Aspinall, V., 2005. *Essentials of veterinary anatomy and physiology*. Oxford: Newnes.

Girling, S., 2004. *BSAVA manual of reptiles*. 2nd ed. Gloucester: BSAVA.

Hoelzel, A., 2002. *Marine mammal biology: an evolutionary approach*. Oxford: Blackwell Science

Kardong, K., 2012. *Vertebrates: comparative anatomy, function evolution*. 6th ed. New York: McGraw Hill.

Kent, G. & Carr, R., 2008. *Comparative anatomy of the vertebrates*. 9th ed. New York, McGraw Hill.

Linzey, D.W., 2012. *Vertebrate biology*. Baltimore: John Hopkins University Press.

Pough, F.H.,, Janis, C.M. & Heiser, J.B., 2013. *Vertebrate life.* 9th ed. Pearson Education

Vaughan, T.A., Ryan, J.M. & Czaplewski, N.J. 2011. *Mammalogy*. 5th ed. Sudbury: Jones & Bartlett.

Vitt, L.J. & Caldwell, J.P. 2009. *Herpetology.* 3rd ed. London: Academic Press.

**Websites:**

Amphibian and Reptile Conservation <http://www.arc-trust.org/>

The British Herpetological Society [www.thebhs.org](http://www.thebhs.org)

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN273 | **MODULE TITLE:** Population Genetics and Community Ecology |

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| **CREDITS:** 20 | **FHEQ Level:** 5 | **JACS CODE:** C183 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module will analyse the interactions between population dynamics and ecosystem functioning, employing current software to predict population changes. Factors affecting population size and viability will also be investigated and related to genetic diversity and its importance to practical conservation strategies. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) | 40% | **C1** | 60% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To further build on the basic introduction to ecology, developing a deeper understanding into the population level dynamics and how the underpinning genetic diversity pays a fundamental role in population viability. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Explain genetic processes from molecular to population level 2. Analyse interactions between population dynamics and ecosystem functioning 3. Assess appropriate use of techniques and software and their application in maintaining ecosystem functioning and viability. 4. Evaluate the importance of applying different aspects of population genetics to practical conservation efforts. |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 15/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2015-16 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Robert Mansfield | **OTHER MODULE STAFF:** Kelly Haynes |

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| **SUMMARY of MODULE CONTENT**  Population Viability Analysis, predictive species distribution modelling, principles and methods in monitoring and assessing ecosystems, selection and speciation, emigration and immigration corridors, population fragmentation, gametogenesis, autopolyploidy, conservation implications of species/ sub-species, current relevant software e.g. VORTEX, hardy-weinberg, bottlenecking, inbreeding, outbreeding. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 30 | Theory of population dynamics, conservation strategies and population genetics |
| Practical classes and workshops | 30 | To include IT workshops using modelling software |
| Guided independent study | 140 | Moodle tasks and guided reading |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 | Examination | 100%  **Total = 100%** | Written examination linked to LO1, LO2, and LO4 |
| T1 |  | 0% |  |
| Coursework | C1 | Essay/Review | 100%  **Total = 100%** | An essay/review assessing the use of survey techniques in population management and conservation strategies, to include the use of modelling software. Linked to LO2, LO3 and LO4 |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Allendorf, F.W., Luikart, G. & Aitken, S.N., 2013. [*Conservation and the genetics of populations*](http://www.nhbs.com/catalogue/display/t=141936). 2nd ed. Oxford: Wiley-Blackwell.

Brown, T.A., 2007. *Genomes 3.* London: Garland Science

Frankham, R., Ballou, J.D. & Briscoe, D.A., 2009. *I*[*ntroduction to conservation genetics*](http://www.nhbs.com/catalogue/display/t=116279). 2nd ed. Cambridge Cambridge V University Press.  
Jamieson, B.G.M., ed., 2007 [*Reproductive biology and phylogeny of birds, part B*](http://www.nhbs.com/catalogue/display/t=149172)*:* *sexual selection, behavior, conservation, embryology, genetics.* New Hampshire:Science Publishers  
Mills, L.S., 2013 [*conservation of wildlife populations*](http://www.nhbs.com/catalogue/display/t=146529), *demography, genetics, and management.* Chichester: John Wiley & Sons.

Solan, M., Aspden, R.J. & Paterson, D.M., eds., 2012. *Marine biodiversity and ecosystem functioning: frameworks, methodologies and integration*. 2nd ed. Oxford: Oxford University Press

Townsend, C.R., Begon, M. & Harper, J.L., 2008. *Essentials of ecology*. 3rd edn. Oxford: Blackwell Publishing.

**Journals**

Conservation Biology Conservation Genetics Nature Genetics

Trends in Genetics Trends in Genetics and Evolution

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN274 | **MODULE TITLE:** Biosecurity and Invasive Species |

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| **CREDITS:** 20 | **FHEQ Level: 5** | **JACS CODE:** C186 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module enables students to gain an in depth knowledge of invasive species, particularly invasive non-native species, and aspects of biosecurity. The emphasis is on the practical efficacy of biosecurity techniques in the management of issues related to invasive species e.g. biodiversity loss and parasite/pathogen transmission. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) | 50% | **C1** | 50% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** CC Newquay Assessment Panel |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To develop the ability to identify and record invasive non-native species (INNS), assess biosecurity risks and devise mitigation protocols, understand the key issues (including biosecurity) related to management of invasive species. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Explain the main current issues posed by INNS and their management. 2. Apply survey techniques, including identification aids, to selected INNS and submit records to databases. 3. Formulate a bio-security plan for an invasive species. |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 15/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2015-16 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Peter McGregor | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Invasive Non-Native Species (INNS) are species spread by man to areas where they cause economic and ecological damage. INNS are recognized as major issues for conservation and biodiversity and the associated dependent businesses (e.g. agriculture, aquaculture); they cost the UK £1.7billion annually (CABI/Defra 2010) and are second only to habitat loss as a threat to global biodiversity (IUCN 2010). Biosecurity can be considered the combination of our actions and approaches that helps to prevent the introduction of INNS and to limit their spread when introduced. This module will allow students to become proficient in identifying INNS (using a variety of identification tools including apps) and the associated biosecurity issues. They will identify biosecurity risks inherent in INNS management and develop mitigating protocols. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 20 | Lectures to cover economic and ecological impact of INNS with the use of key case studies |
| Seminars | 10 | Discussion and debate around current INNS |
| Practicals | 30 | INNS identification and biosecurity protocol development |
| Guided independent study | 140 | Employing identification and risk assessment skills, researching information for seminar discussions and application report |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 | Examination | 100%  **Total = 100%** | Current issues of INNS and management; application of survey techniques, including INNS identification (LO1 & LO2). |
| T1 |  | 0% |  |
| Coursework | C1 | Report | 100%  **Total = 100%** | Report: a bio-security plan for an invasive species (LO3). |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Cadotte, M., McMahon, S. & Fukami, T. 2006 *conceptual ecology and invasion biology: reciprocal approaches to nature.* The Netherlands*:* Springer

DAISIE, 2009. *Handbook of Alien Species in Europe.* London: Springer.

Dobson, A., Barker, K. & Taylor, S.L., eds., 2013 *Biosecurity: the socio-politics of invasive species and infectious diseases.* Abingdon: Routledge.

Sandland, O.T., Schei, P.J. & Viekn, A., 1999. *Invasive species and biodiversity management.* The Netherlands: Kluwer Academic Publishers

Simberloff, D., 2013. *Invasive species: what everyone needs to know.* Oxford University Press, Oxford.

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN275 | **MODULE TITLE:** Zoological Conservation in Practice |

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| **CREDITS:** 20 | **FHEQ Level:** 5 | **JACS CODE:** C300 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module evaluates the relationship between the ethos and activities of organisations and their role in conservation. The module will have a practical application with student involvement in taxon specific surveys with an emphasis on UK native species, and an understanding of how these filter into conservation management strategies. Students are required to complete a minimum of 40hrs (recommended at least 100hrs) of work-related experience in relevant placements. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 100% | **P1** | Pass/Fail |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  This module aims to apply knowledge of the conservation framework learned throughout the course to work related experience in the conservation sector. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Apply their understanding of different census and survey techniques for *in-situ* and *ex-situ* conservation. 2. Complete a minimum of 40 hours work-related experience in the conservation sector 3. Evaluate work-related experience obtained in the conservation sector 4. Demonstrate an awareness of the cultural, ethical and legislative framework for conservation management |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 15/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2015-16 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Samantha Hammond | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Analysis of an organisation, its management, working practices and careers structure, and evaluate personal experience within this. Structure of conservation framework national, European and international: key policy and agreements (examples include: Marine and coastal access act, Wildlife and conservation act, EU Habitats Directive, CITEs, IUCN). Habitat management and captive/wild population management. *Ex-situ* conservation - zoos and aquaria framework: EEPs, BIAZA, EAZA, TAGs, SSPs. Follow a national/international taxon survey- contribute towards larger data set. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 40 | Covering elements of legislation, habitat management and *in-situ*/*ex-situ* population management |
| Seminars | 10 | Guided group discussion around issues of bioethics e.g. captive breeding programmes, conflict surrounding protected areas - informed feedback from current employers working in conservation management |
| Fieldwork | 20 | Guided fieldwork as part of a wider survey/census/ data collection |
| Tutorials | 10 | Track discuss WRL and PDP |
| Work-based learning | 40 | To be arranged by the student in relevant work (further 60 hrs recd) |
| Guided independent study | 80 | VLE tasks and independent research |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 |  | 0% |  |
| Coursework | C1 | Reflective presentation  Report | 40%  60%  **100%** | Evaluation of work-related experience and employment in the conservation sector. (LO3) Summarise survey findings of a particular species or habitat and consider this within the wider cultural, ethical and legislative conservation framework. (LO1, LO4) |
| Practice | P1 | Work-related experience | 0% | Pass /Fail, Completion of minimum 40hrs work-related experience (must be agreed before being undertaken, and hours logged.)(LO2) |

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| **Updated by:** K.Haynes | **Date:** 04-06-14 | **Approved by:** R.Martin | **Date:** 06-06-14 |

**READING LIST:**

Frankham, J.D.B., & Briscoe, D.A., 2009. *Introduction to conservation genetics.* 2nd ed.Cambridge: Cambridge University Press.

Gibbons, E.F., Durrant, B.S. and Demarest, J., 1995 *Conservation of endangered species in captivity: an interdisciplinary approach.* New York: State University of New York Press.

Kleiman, D.G., Thompson, K..V. & Baer, C.K., 2010. *Wild mammals in captivity: principles and technique for zoo management.* 2nd ed.Chicago: University of Chicago Press.

Primack, R.B., 2010. *Essentials of conservation biology.* 5th ed. Massachusetts: Sinauer Associates.

International Zoo Yearbook

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN276 | **MODULE TITLE:** Research Methods and GIS for Zoology |

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| **CREDITS:** 20 | **FHEQ Level:** 5 | **JACS CODE:** F846 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module will be delivered as a series of lecturers, workshops and seminars covering literature reviews, data analysis, data interpretation and report writing, as well as covering a selection of survey techniques and research tools for Zoology, including GIS. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 60% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) | 40% | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** CC Newquay Assessment Panel |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  This module aims to provide the learner with the appropriate tools for designing and carrying out a research project within the field of zoology.  Students will also learn how to select and apply appropriate statistical tests to analyse and interpret quantitative data, and to present findings appropriately as either a presentation or report.  Students will become familiar with G.I.S. and its applications in zoology based research. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Design an appropriate research project. 2. Analyse and interpret data. 3. Analyse literature relevant to the planned research project. 4. As a group collate and present survey data using GIS. |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 15/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2015-16 | **NATIONAL COST CENTRE:** 111 |

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| **MODULE LEADER:** Kelly Haynes | **OTHER MODULE STAFF:** Peter McGregor, Angus Jackson |

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| **SUMMARY of MODULE CONTENT**   * A series of lectures and seminars looking at how to ask questions in biology- focussing on differences and trends, how to answer questions- research design and data collection, data analysis- summary and inferential statistics. * Design an appropriate research project |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 20 | How to ask questions in biology, research considerations, and how to answer questions in biology- summary and inferential statistics. |
| Seminars | 10 | Using primary literature to exemplify varying research design |
| Practical classes and workshops | 40 | GIS workshops- terrestrial and marine examples  Data analysis workshops- collating, summarising and analysing data. |
| Guided independent study | 130 | Moodle tasks, independent research in preparation for seminar discussions. |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | **0%** |  |
| T1 | In class test | 100%  **100%** | Data analysis and interpretation (LO2) |
| Coursework | C1 | Project proposals | 50%  50%  **100%** | Project proposal- identifying research question and design, and proposed analysis. (LO1, LO3)  Survey data poster-presenting information through GIS (LO4) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Barnard, C., Gilbert, F. & McGregor, P., 2011. *Asking questions in biology*. 4th ed. Harlow: Pearson Education Limited.

Corbin, J. & Strauss, A., 2008. *Basics of qualitative research: techniques and procedures for developing grounded theory*. 3rd ed. London: Sage Publications.

Denscombe, M., 2010. The *good research guide: for small-scale social research projects*. 4th ed. Buckingham: Open University Press.

Dytham, C., 2010. *Choosing and using statistics – a biologists guide*. 3rd ed. Oxford: Blackwell Publishing.

Fowler, J., Cohen, L. & Jarvis, P. 1998. *Practical statistics for field biology*. Chichester: John Wiley & Sons.

Greenfield, T., 2002. *Research methods: guidance for post graduates*. 2nd ed. London: Hodder and Stoughton.

Heywood, I., Cornelius, S. & Carver, S., 2011. *An introduction to geographical information systems*. 4th ed. Harlow: Prentice Hall.

Longley, P.A.. Goodchild, M.F., Maguire, D.J. & Rhind, D.W., 2010. *Geographical information systems and science*. 3rd edn. Chichester: John Wiley.

Sutherland, W. J., 2006. *Ecological census techniques*. 2nd ed. Cambridge: Cambridge University Press

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN213 | **MODULE TITLE:** Behavioural Ecology |

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| **CREDITS:** 20 | **FHEQ Level:** 5 | **JACS CODE:** C300 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module will explore the functional significance of animal behaviour in terms of fitness, covering major theories and supporting studies in the fields of evolutionary and behavioural ecology. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) | **50** | **C1** | **50** | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To provide knowledge of a range of behavioural theories, and to understand the application of behavioural modelling techniques to a range of conservation and management issues. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Understand the basic concepts of sexual versus natural selection. 2. Understand the factors influencing mate choice and social structure. 3. Understand the basic concepts of foraging and predator/prey models. 4. Demonstrate knowledge of individual and population behaviour and its implications for conservation. 5. Relate the behavioural ecology of a wild population to the management of a captive population |

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| **DATE OF APPROVAL:** | April 2008 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/2008 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | 2008 | **TERM:** | 15/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2015-16 | **NATIONAL COST CENTRE:** 110 |

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| **MODULE LEADER:** Robyn Silcock | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Natural selection, parental care, sexual selection, sperm competition, altruism, animal signals, optimum foraging theory, communication, animal adaptation, classical and operant conditioning, play behaviour, nature versus nurture, enrichment, genetic influence, conservation implications, viability and captive breeding systems, dispersal, social organisation, individual identification and recognition systems, vigilance and group living. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 35 | Behavioural theory, case studies and social systems |
| Practical classes and workshops | 15 | To Include debates and discussion around current theory and literature. |
| Fieldwork | 20 | To include site visits to observe the practical application of behavioural therapy and further insight to animal behaviour. |
| Guided independent study | 130 | Moodle tasks and guided reading |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 | Written examination | 100% | Demonstrate, through assessment, knowledge of concepts in animal behaviour and ecological principles and their effect on current environmental practice. Link to LO2, LO3, LO4 |
| T1 |  | 0% |  |
| Coursework | C1 | Management Plan | 100%  **Total = 100%** | Produce a management plan for conserving an endangered species. (LO4, LO5) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Caro, T., 1998. *Behavioural ecology and conservation biology*. Oxford: Oxford University Press.

Danchin, E., Giraldeau, L-A., Cézilly, F. 2008. *Behavioural Ecology.* Oxford University Press.

Davies, N. B., Krebs, J. R. & West, S. A. 2012. *An introduction to behavioural ecology*. 4th Ed. Wiley: Blackwell Publishing.

Drickamer, L.C., Vessey, S. H. & Jakob, E. M., 2002. *Animal behaviour*. New York: McGraw-Hill Higher Education.

**Journals:**

*Animal Behaviour*

*Applied Animal Behaviour Science*

*Behaviour*

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN270 | **MODULE TITLE:** Marine Vertebrate Biology and Conservation |

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| **CREDITS:** 20 | **FHEQ Level:** 5 | **JACS CODE:** F710 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module explores the functional biology of marine vertebrates, focussing especially on key conservation flagship species; elasmobranchs, marine reptiles, birds and marine mammals. A detailed understanding of feeding, physiological and morphological adaptations to the marine environment, locomotion and migration, social and reproductive behaviour will be explored and related to their conservation. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) | 50% | **C1** | 50% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To develop an understanding of selected aspects of the adaptive physiology and biology of marine vertebrates and to provide an insight into the conservation of key species. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. demonstrate a detailed knowledge of the main groups of marine vertebrates 2. use ideas and information from a range of sources to demonstrate a good understanding of the feeding and behaviour patterns of named species 3. describe and contrast the main physiological and anatomical adaptations to marine life in marine vertebrates 4. demonstrate a detailed knowledge of the main factors affecting the population dynamics of marine vertebrates 5. critically evaluate attempts to conserve a named species of marine vertebrate suggest suitable strategies for its conservation |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 15/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2015-16 | **NATIONAL COST CENTRE:** 111 |

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| **MODULE LEADER:** Rebecca Allen | **OTHER MODULE STAFF:** Angus Jackson |

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| **SUMMARY of MODULE CONTENT**  Classification and characteristic features of marine vertebrates. Comparative anatomy and physiological adaptations to the marine environment. Communication among marine mammals. Surveying and monitoring marine vertebrates using traditional and modern technology. Field observations/ surveys of selected species of marine vertebrates. Population dynamics of a named species. Reproductive and feeding ecology of marine vertebrates. Conservation and protective legislation of marine vertebrate species. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 25 |  |
| Practical classes and workshops | 25 | Survey methods and skills, conservation seminars |
| Fieldwork | 10 | To include boat based and shore surveys |
| Guided independent study | 140 |  |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 | Exam | 100%  **Total** **100%** | Demonstrate detailed knowledge and synthesis of information from a range of sources in the understanding of marine vertebrate biology and conservation LO1, LO2, LO3 |
| T1 |  | 0% |  |
| Coursework | C1 | Conservation research proposal | 100%  **Total 100%** | Group work to produce a research proposal for a marine vertebrate. Link to LO3, LO4, LO5 |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Berta, A., 2011. *Return to the sea: the life & evolutionary times of marine mammals*. London: University of California Press.  
Fowler, S., Reed, T. & Dipper, F., eds., 1997. Elasmobranch biodiversity, conservation and management, *proceedings of the International Seminar and Workshop, Sabah, Malaysia*. [online].

Hamlett, W. C. 1999. Sharks, skates, and rays*the biology of elasmobranch fishes. London: John Hopkins University Press.*

Hoelzel, A.R., 2002. *Marine mammal biology: an evolutionary approach*. Oxford: Blackwell Science Ltd.

Perrin, W.F., Wuersig, B. & Thewissen, J.M.G., 2009. *Encyclopedia of marine mammals.* London*:*  Academic Press.

Reynolds, J.E., Perrin, W.F., Reeves, R.R., Montgomery, S. & Ragen, T. 2005. *Marine mammal research: conservation beyond crisis.* Baltimore*:*  John Hopkins University Press.

Spotila, J., 2011. *Sea turtles: a complete guide to their biology, behaviour and conservation*. Baltimore: John Hopkins University Press.

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN271 | **MODULE TITLE:** Advanced Ecology and Survey Techniques |

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| **CREDITS:** 20 | **FHEQ Level:** 5 | **JACS CODE:** C180 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module looks at the physiology and ecology of vertebrates and invertebrates in relation to appropriate survey techniques. The module aims to illustrate threats to species both in the UK and worldwide, and the methods of species and habitat protection. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 50% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) | 50% | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To increase the students’ knowledge of reptile, amphibian, mammal, and invertebrate physiology, behaviour and ecology. Students will apply this knowledge to practical survey techniques, and understand the importance of appropriate surveying for conservation using relevant UK and worldwide examples. Students will further research around the related issues such as ecosystem services and threats to specific taxa as well as their habitats. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Relate physiology and behaviour of a range of vertebrate and invertebrate examples to ecosystem services 2. Evaluate different survey techniques used for vertebrates and invertebrates in a range of biomes 3. Recognise key threats to specific invertebrate and vertebrate taxa and critically evaluate the related legislation and policy in place to mitigate these threats. |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 15/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2015-16 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Katherine Cooper | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Discussion and identification of important taxonomic groups and ecology. Key European and UK species. The value and appropriate use of survey techniques. Presentation of field survey results to peers. Management of habitats for invertebrate and vertebrate examples. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 30 | Specific physiology and ecology of mammals, reptiles, amphibians, and invertebrates, and relation to habitat preference, and survey techniques. |
| Seminars | 10 | Discussion of key UK and European species and policy in place to protect and conserve threatened species. |
| Practical classes and workshops | 15 | Demonstration and training of different field survey techniques appropriate for various taxonomic groups. |
| Fieldwork | 30 | Application of specific animal and habitat survey techniques. |
| Guided independent study | 115 | Moodle activities and guided reading |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 | In class test | 100%  **Total = 100%** | Demonstrate an understanding of key threats to various vertebrate and invertebrate groups and an ability to identify and evaluate related policy and legislation. (LO3) |
| Coursework | C1 | Report | 100%  **Total = 100%** | Relating physiology and ecology to ecosystem services to specific examples and select appropriate methods of surveying both the species and its habitat. (LO1, LO2) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Birks, J.D.N.S. Bullion, S. Cresswell, W.J. and Dean, M. 2012. *UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation.* Mammal Society

Edgar, P. Foster, J. Baker, J. 2010. *Reptile habitat management handbook*. Amphibian and Reptile Conservation Trust.

Gent, T. & Gibson, S., eds., 2012. *Herpetofauna workers' manual*. Peterborough: Pelagic Publishing.

Koellner, T. 2012. Ecosystem services and global trade of natural resources: ecology, economics and policies.

New, T. 2005. *Invertebrate Conservation and Agricultural Ecosystems*. Cambridge University Press.

New, T. 2009. *Insect species conservation*. Cambridge University Press

Vitt, L.J. & Caldwell, J.P., 2013. *Herpetology : an introductory biology of amphibians and reptiles*. 4th ed. London: Elsevier/Academic. To order – have 3rd ed (2009).

**Journals**

The Herpetological Bulletin Mammal Review Invertebrate Biology

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN278 | **MODULE TITLE:** Primate Behaviour and Conservation |

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| **CREDITS:** 20 | **FHEQ Level:** 5 | **JACS CODE:** C300 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module explores some aspects of the behaviour of primates, including how they learn and behave in natural and captive situations, and how this research informs conservation strategies. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) | 40% | **C1** | 60% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To ensure students understand how primates behave in natural and captive situations, investigate our relationship with nonhuman primates and understand how this leads to successful conservation management. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Explain the impacts of culture and media on the conservation of primates 2. Analyse different primate social systems. 3. Discuss how known primate social system informs conservation practice. 4. Illustrate how our understanding of primate behaviour has changed over time. |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 15/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2015-16 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Rebecca Allen | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Weekly lecture series Weekly lectures and tutorials and practical workshops for the observation and measurement of behaviour. Briefing on module. Introduction to primates. Physiological basis of behaviour. Behavioural ecology of primates. Case studies of conservation management plans for primates |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 30 | Theory of behavioural ecology using primate examples. Evolution of culture around primates and their relationship with humans. Physiology of primate behaviour. |
| Practical classes and workshops | 30 | Development of behaviour observation skills including observation of differing social systems. Research activities to demonstrate the use of primate behaviour in effective conservation strategies. |
| Fieldwork | 30 | Visits to local and national primate collections and rehabilitation centres. |
| Guided independent study | 110 | Moodle tasks and guided reading. |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 | Examination | 100%  **Total = 100%** | Demonstrate a detailed knowledge of the major concepts related to primate behaviour and the impacts of culture and media on conservation efforts (LO1, LO3, LO4) |
| T1 |  | 0% |  |
| Coursework | C1 | Report | 100%  **Total = 100%** | Complete a report based on behavioural observations comparing and contrasting differing primate social systems and their importance in conservation strategies (LO2, LO3, LO4) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Hohmann, G., Robbins, M., and Boesch, C. 2012. *Feeding ecology in Apes and other Primates: Ecological, Physiological and Behavioural Aspects*. Cambridge University Press

Matsuzawa, T., Humle, T., and Sugiyama, Y. 2013 *The chimpanzees of Bossou and Nimba*. Springer-Verlag

Quiatt, D. and Reynolds, V. 1995. *Primate Behaviour: Information, Social Knowledge and Evolution of Culture.* Cambridge University Press.

Strier K. 2002. *Primate Behavioural Ecology*. 2nd Ed. Allyn & Bacon

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN306 | **MODULE TITLE:** Applications of Zoology |

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| **CREDITS:** 20 | **FHEQ Level:** 6 | **JACS CODE:** C310 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module enables students to study and develop ideas related to selected zoological themes relevant to the workplace or research situation**.** The student will explore these themes through the literature, seminars and tutorials developing his/her own research skills. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 100% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To develop the ability to produce a synthesis of information and ideas in a sustained discourse constructed around themes of current interest in Zoology. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Synthesise information from the literature, to elucidate a research theme using different conceptual perspectives. 2. Appraise evidence from the scientific literature to construct a convincing argument on a controversial issue. 3. Evaluate research on set zoological topics and present findings to the peer group. |

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| **DATE OF APPROVAL:** | April 2008 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/08 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 14/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2014-15 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Lawrence Moores | **OTHER MODULE STAFF:** Peter McGregor |

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| **SUMMARY of MODULE CONTENT**  Students will be expected to research current debates in the literature in the Biosciences, covering topic areas such as those detailed below. The subject of the self-study must fall within the broad range of Zoological Science. Themes which may be included: genetics & biotechnology in conservation; impact of pollution on ecosystem / species / population conservation & management; sentience, consciousness & welfare, evolution in education. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 20 |  |
| Practical classes and workshops | 30 |  |
| Guided independent study | 150 |  |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 |  | 0% |  |
| Coursework | C1 | Briefing document  Review article | 30%  70%  **Total = 100%** | Writing a briefing -LO2  Presentation and Extended report- LO1, LO3 |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** Mar 2014 | **Approved by:** R.Martin | **Date:** Mar 2014 |

**READING LIST:**

Barnard, C., Gilbert, F. and McGregor, P., 2011. *Asking questions in biology*. 4th ed. Harlow: Pearson Education Ltd.

Barrass, R., 2002. *Scientists must write*: *a guide to better writing for scientists, engineers and students*. 2nd ed. London: Routledge.

Booth, V. 1993. *Communicating in science: writing and speaking*. 2nd ed. Cambridge. Cambridge University Press.

Booth, A., Papaioannou, D. and Sutton, A., 2012. *Systematic approaches to a successful literature review.* London: Sage Publications Ltd.

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN310 | **MODULE TITLE:** Honours Project |

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| **CREDITS:** 40 | **FHEQ Level:** 6 | **JACS CODE:** C300 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** No |

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| **SHORT MODULE DESCRIPTOR:**  This module allows students to explore in detail an academic subject of their choice. The module comprises a substantial research study element, which includes a literature review, experimental design, the collection, analysis and interpretation of data and report writing. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 100% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To provide the student with an opportunity to carry out self-directed study of current issues and concepts relevant to their degree programme. To provide knowledge and understanding of the research process. To develop competence in the design and execution of a research study and an ability to communicate their findings by means of written and oral reports. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Critically evaluate relevant literature and identify the need for further research 2. Propose a suitable research question for investigation, have that proposal agreed with the project co-ordinator and manage that project to an appropriate academic level 3. Design and execute the collection of data via any combination of laboratory work, field work, questionnaire and reference to scientific literature or unpublished data sources. 4. Analyse, interpret and critically evaluate data 5. Communicate their findings in an appropriate scientific manner. |

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| **DATE OF APPROVAL:** | April 2008 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/08 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 14/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2014-15 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Kelly Haynes | **OTHER MODULE STAFF:** Peter McGregor, Angus Jackson |

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| **SUMMARY of MODULE CONTENT**  Identification of appropriate research questions. Selection of an appropriate methodology. Literature research and review. Experimental design. Negotiation of issues access and ethics. Data collection, analysis and interpretation. Report writing. Presentation of findings to peers. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 30 |  |
| Practical classes and workshops | 20 |  |
| Guided independent study | 350 |  |
| **Total** | **400** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 |  | 0% |  |
| Coursework | C1 | Literature Review  Final Report  Poster or spoken paper | 20%  60%  20%  **100%** | Literature Review completed prior to research design (LO1)  Final written report (LO2, LO4, LO5)  Poster or spoken presentation of key research findings (LO5) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Barnard, C., Gilbert, F. & McGregor, P., 2011. *Asking questions in biology*. 4th ed. Harlow: Pearson.

Barrass, R., 2002. *Scientists must write: a guide to better writing for scientists, engineers & students*. 2nd ed. Oxford: Routledge.

Barrass, R., 2005. *Students must write: a guide to better writing in coursework and examinations*. 3rd ed. London: Routledge.

Booth, V., 1993. *Communicating in science: writing and speaking*. 2nd ed. Cambridge: Cambridge University Press.Denscombe, M., 2010. T*he good research guide: for small-scale social research projects.* 4th ed. Buckingham: Open University Press.

Dytham, C., 2010. *Choosing and using statistics: a biologists guide*. 3rd ed. Oxford: Blackwell.

Field, A., 2009. *Discovering statistics using SPSS and sex and drugs and rock ‘n’ roll.* 3rd ed. London: Sage. 4th ed 2013 on order

Jansen, R.C, 2011. *Developing a talent for science*. Cambridge: Cambridge University Press.

Jones, A.H., Reed, R. & Weyers, J., 2011. *Practical skills in biology*. 5th ed. Harlow: Pearson Education Limited.

Matthews, J.R. & Matthews, R.W., 2007 *Successful scientific writing: a step-by-step guide for the biological and mechanical sciences.* Cambridge. Cambridge University Press.

Kinnear, P.R. & Gray, C.D., 2008. *SPSS 16 made simple*. Hove: Taylor & Francis

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN314 | **MODULE TITLE:** Conservation Project Management |

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| **CREDITS:** 20 | **FHEQ Level:** 6 | **JACS CODE:** N213 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  Project management is a vital component of conservation work, as most activities are time-limited projects based on limited funds, a need to maximise planned activity, keep to a budget and regularly report to funding providers. Effective communication of research is a vital skill to increase public awareness of conservation issues, this module will explore how science is effectively and appropriately communicated to a range of audiences and evaluate their effectiveness in the delivery of coherent messages. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 80% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) | 20% | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To develop the skills required to manage a conservation-based project, through practical project management. To effectively disseminate the findings of a conservation project to different interest parties such as local stakeholders, funders and the general public. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:  1. Appraise different sources of funding for a conservation project.  2. Manage project objectives using current industry-standard methods of project management.  3. Critically evaluate conservation project achievements and milestones.  4. Report conservation project achievements to stakeholders and the general public. |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 16/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2016-17 | **NATIONAL COST CENTRE:** 133 |

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| **MODULE LEADER:** Angus Jackson | **OTHER MODULE STAFF:** Jason Birt, Katherine Cooper, Peter McGregor, Lawrence Moores |

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| **SUMMARY of MODULE CONTENT**  Sources of grants and other sources of funding; current methods of project planning and management; project management software and web resources; financial management software; stakeholder negotiation; management theory; personnel management; SMART targets; use of incentives to gain peak performance; management reporting styles; public engagement and outreach. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 20 | Delivered in a block at the start of the module |
| Tutorials | 10 | Track and discuss WRL and PDP, |
| Practice | 40 | Team meetings to be held during these hours |
| Self-directed group work | 130 | Project aims/objectives undertaken and achieved during these hours |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 | In class test | 100%  **100%** | Using hypothetical situation. Held near the start of the module after block delivery of theory lectures. (LO1, LO2, LO3, LO4) |
| Coursework | C1 | *Viva voce*  Report/Multi media Communication | 40%  60%  **100%** | Individual student *viva* to determine success of conservation project management (LO1, LO2, LO3).  Effective communication of findings appropriate for selected audience (LO4) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Ausden, M., 2007. *Habitat management for conservation : a handbook of techniques*. Oxford: Oxford University Press.

Boon, P.J. & Raven, P., 2012. *River conservation and management*. Oxford: Wiley-Blackwell.

Doody, P.J., 2013. *Sand dune conservation, management and restoration*. London: Springer.

Gibbs, J.P., Hunter, M.J. & Sterling, E.J., 2008. *Problem-solving in conservation biology and wildlife management: exercises for class, field and laboratory*. 2nd ed. Oxford: Blackwell Publishing.

Primack, R.B., 2010. *Essentials of conservation biology*. 5th ed. Massachusetts: Sinauer Associates.

**Journals:**

Conservation

Conservation in Practice

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN315 | **MODULE TITLE:** Conservation Genetics |

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| **CREDITS:** 20 | **FHEQ Level:** 6 | **JACS CODE:** C400 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module aims to equip the learner with the most up to date molecular techniques being used in genetics for conserving and protecting species. This will look at genome sequencing of animals, the importance of maintaining genetic diversity within a captive and wild population, and the implication of genetic diversity in management of small populations of possibly threatened species. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) | 60% | **C1** | 40% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To gain an understanding of the importance in maintaining and monitoring genetic variation within a population both in-situ and ex-situ for the purposes of conservation, and recognise their application in management strategies.  To evaluate the use of current molecular tools within the field of conservation and relate these to genetic processes from molecular to population level. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Generate and analyse data on the genetic variation within an animal population using appropriate molecular tools. 2. Compare and contrast key concepts in molecular genetics and their significance for the conservation of small populations. 3. Evaluate the applications of genetics to selected topical areas with implications for the management of threatened species both in captivity and in the wild. 4. Integrate genetic, ecological and behavioural factors for conservation management strategies both *in*- and *ex-situ*. |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 16/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2016-17 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Kelly Haynes | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Fundamentals of molecular genetics: gene and chromosome structure, DNA replication, mutation, gene expression. Biotechnology: examples may include- gene banks, cloning, PCR, electrophoresis, DNA fingerprinting, microsatellite tagging, micro arrays. The module will aim to give an understanding of the technique, interpretation of its output and the application in context, for example phylogenetics. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 40 | Genetic processes, molecular techniques, application |
| Seminars | 30 | Reviewing current practice and specific examples |
| Practical classes and workshops | 20 | Molecular tools, data analysis and interpretation |
| Guided independent study | 110 |  |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 | Examination | 100%  **Total = 100%** | Demonstrates an ability to integrate information on species ecology, biology and genetics to inform conservation management (LO2, LO3, LO4) |
| T1 |  | 0% |  |
| Coursework | C1 | Literature review  Report | 50%  50%  **Total = 100%** | Literature review of current molecular tools and their application in conservation (LO2, LO3)  Analysis of genetic data in relation to conservation management (LO1, LO2) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Allendorf, F.W., Luikart, G. & Aitken, S.N., 2013. [*Conservation and the genetics of populations*](http://www.nhbs.com/catalogue/display/t=141936). 2nd ed. Oxford: Wiley-Blackwell.

Frankham, R., Ballou, J.D. & Briscoe, D.A., 2009*. Introduction to conservation genetics*. 2nd ed. Cambridge Cambridge V University Press.

Hoglund, J., 2009. *Evolutionary conservation genetics*. Oxford: Oxford University Press.

**Journals:**

Conservation Biology Conservation Genetics

Nature Genetics Trends in Genetics

Trends in Genetics and Evolution

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE: CORN326** | **MODULE TITLE:** Placement Project |

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| **CREDITS:** 0 | **FHEQ Level:** 5 | **JACS CODE:** C310 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** No |

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| **SHORT MODULE DESCRIPTOR:**  This module provides an opportunity to gain professional practice, knowledge and skills through a work placement with an approved company or host organisation between Stage 2 and 3 for at least 26 weeks. It will allow students to apply their knowledge and training to real projects and gain an insight into potential careers within the conservation sector. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | Portfolio | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To enhance skills through work based learning in all aspects of conservation, including literature searching and appraisal, design of experiments or surveys, practical skills, collection and manipulation of data and/or information, report writing and poster presentation.  Enable students to apply their knowledge, expertise and skills gained in applied conservation to the workplace.  Provide students with opportunities to reflect upon, and improve their learning in practical context  Obtain vocationally relevant skills and enhance student employability. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Plan, organise and undertake a programme of work agreed with their academic tutor and workplace sponsor 2. Evaluate data and/or information to produce a detailed and coherent written report 3. Reflect critically on their work-based learning experience |

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| **DATE OF APPROVAL:** | June 2014 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 16/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2016-17 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Kelly Haynes | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Students will be responsible for finding an appropriate work placement within the conservation sector. Students must conduct at least 26 weeks, which may be carried out in more than one placement, but the student must complete a minimum of 4 months at one placement in which to conduct a personal research project.  The student will work with a project supervise to devise a suitable research project on placement, and will be a point of contact while on placement. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Tutorials | 10 | Throughout the year to work on project proposal and liaison with placement. |
| Fieldwork | 950 | Completion of work based learning placement/s |
| **Total** | **960** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 |  | 0% |  |
| Coursework | C1 | Report | P/F | Completion of a report based on the data collected during the placement. (LO1, LO2, LO3) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** Jun 2014 | **Approved by:** R.Martin | **Date:** Jun 2014 |

**READING LIST:**

Bolton, J. (2005). *Reflective practice: Writing and Professional Development*. Sage, London.

Boud, D. and Solomon, N. (2001). *Work-based Learning: A New Higher Education?* Open University Press, Buckingham

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN304 | **MODULE TITLE:** Zoology and Conservation of Aquatic Ecosystems |

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| **CREDITS:** 20 | **FHEQ Level:** 6 | **JACS CODE:** C160 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module focuses on recent advances in the biology, ecology and conservation of animal life within freshwater and marine environments, and addresses how conservation measures can ensure marine life and the marine environment can be utilised in a sustainable way. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) | **60%** | **C1** | 40% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To develop an understanding of current research in selected aspects of aquatic zoology, Extend knowledge of the biology and community interactions in marine and freshwater environments. Evaluate anthropogenic impacts on aquatic organisms and systems and the conservation techniques attempting to mitigate these. To develop advanced competence in the use of sampling techniques Evaluate the impact of abiotic and biotic processes in the marine environment on management and conservation techniques, Develop an awareness of contemporary issues regarding marine conservation and sustainable use marine resources. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Give a detailed account of some of the key advances in our understanding of the biology and ecology of aquatic animals whilst indicating a critical awareness of its provisional nature. 2. Synthesise information regarding the interactions of aquatic organisms at community, ecosystem and global levels. 3. Plan and execute appropriate practical work to study an aquatic organism or ecosystem indicating an awareness of ethical issues. 4. Critically evaluate management and conservation measures which are currently applied to minimise the impacts of human activity on aquatic animals. |

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| **DATE OF APPROVAL:** | Sept 2008 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/08 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 14/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2014-15 | **NATIONAL COST CENTRE:** 112 |

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| **MODULE LEADER:** Angus Jackson | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Diversity and classification of aquatic animals. Aquatic habitats and ecosystems. Food webs and species interactions. Use of microscopes for identification of plankton. Methods for sampling and studying aquatic organisms. Field trips to investigate aquatic ecosystems. Conservation management plans including marine protected areas. Review current research topics in Aquatic Zoology. Coastal zone management. Impacts of climate change on marine biodiversity .Sustainable use of living marine resources. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 20 |  |
| Practical classes and workshops | 15 |  |
| Fieldwork | 15 |  |
| Guided independent study | 150 |  |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 100%  **Total = 100%** | Theoretical knowledge and current research (LO1, LO2) |
| T1 |  | 0% |  |
| Coursework | C1 |  | 100%  **Total = 100%** | Plan a research project related to long term monitoring including ethical consideration( LO2, LO3) |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Bird, E.C.F., 2008. *Coastal geomorphology: an introduction*. 2nd ed. Chichester: John Wiley & Son.

Castro, P. & Huber, M.E., 2013. *Marine biology*. 9th ed. New York: McGraw-Hill.

Clark, R. B., 2001. *Marine pollution*. Oxford: Oxford University Press.

Colling, A., 2001. *Ocean Circulation*. Oxford: Butterworth Heinemann.

Coté, I. M. & Reynolds, J. D., eds., 2006. *Coral reef conservation*, 13th ed. Cambridge: Cambridge University Press.

Fish, J. & Fish, S., 2011. *A student’s guide to the seashore.* 3rd ed. *Cambridge:* Cambridge University Press.

Herring, P., 2001. *The biology of the deep ocean*. Oxford: Oxford University Press.

Hamlett, W.C., ed., 1999. *Sharks, skates and rays; the biology of elasmobranch fishes.* London: Johns Hopkins University Press.

Norse, E.A. & Crowder, L. B., eds., 2005. *Marine conservation biology: the science of maintaining the sea's biodiversity.* USA*:* Island Press.

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN313 | **MODULE TITLE:** Wildlife Conservation |

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| **CREDITS:** 20 | **FHEQ Level:** 6 | **JACS CODE:** C184 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module allows students to examine the application of science to the practice of wildlife management and the impact of environmental law and policy on the biological outcomes for threatened species and ecosystems. The module has a strong emphasis on field-based experience with the added knowledge of GIS (Geographical Information Systems) to back up the practical applications, and link into WBL. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) | 60% | **C1** | 40% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To develop a systematic knowledge and understanding of conservation work in practise and GIS. Expose students to a range of coastal and terrestrial habitats, their management and conservation. To develop competence in the design and execution of biological survey techniques. To develop an ability to communicate findings by means of written and oral reports |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Critically evaluate conservation projects in relation to national and international policy objectives and legislation. 2. Formulate a suitable management plan for a named place with relation to its conservation/ population control with the aid of GIS applications as part of the process of environmental decision making. 3. Collate, analyse and present results of surveys of the abundance and distribution of key species. |

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| **DATE OF APPROVAL:** | April 2008 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/08 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | Dec 2011 | **TERM:** | 14/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2016-17 | **NATIONAL COST CENTRE:** 111 |

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| **MODULE LEADER:** Katherine Cooper | **OTHER MODULE STAFF:** |

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| **SUMMARY of MODULE CONTENT**  Introductory lectures outline global conservation problems and describe different approaches to conservation. A field course includes field excursions to different sites to evaluate conservation work and management in practise, some of the following subjects can be found within the module; Basic GIS, National parks, UK and International conservation laws, Water resources and conservation, Biodiversity offsetting, Identification and recording techniques, EIAs and scoping documentation, policy and implementation e.g. management plans, Biodiversity Action Plans (BAPs), population monitoring techniques, impacts of climate change on biodiversity, evidence-based conservation, running practical conservation programmes. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 20 | Theory to cover legislation, designation, recording techniques and biological offsetting. |
| Practical classes and workshops | 20 | Site visits to observe varying conservation strategies in practise |
| Fieldwork | 20 | Field visits to demonstrate monitoring process and collect data. |
| Guided independent study | 140 | Independent research to support UK and international examples of wildlife conservation given in lectures. |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 | Examination | 100%  **Total = 100%** | Evaluate work of conservation bodies and projects |
| T1 |  | 0% |  |
| Coursework | C1 | Report  Case study | 50%  50%  **Total = 100%** | Field report- appropriately survey a given location and report findings as conservation recommendations.  Case study of a chosen species or habitat and its current conservation status. |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Borgerhoff Mulder, M., & Coppolillo., 2005. *Conservation:* *linking ecology, economics, and culture*. New Jersey: Princeton University Press.

Chalmers, N., Parker, P., McConway, K. & Crothers, J., eds., 1989. *Project guide: fieldwork and statistics for ecological projects.* Dorchester: Field Studies Council.

De Klemm C., & Shine, C., 2007 *Biological diversity conservation and the law: legal mechanisms for conserving species and ecosystems - environmental policy & law papers, No. 29*. Cambridge: IUCN Publications. (online)

Glasson, J., Therivel, R. & Chadwick, A., 2012. *Introduction to environmental impact assessment*. 4th ed. Abingdon: Routledge.

Heywood, I., Cornelius, S. & Carver, S., 2011. *An introduction to geographical information systems*. 4th ed. Harlow: Prentice Hall.

Macdonald, D. & Service, K., 2013. *Key t*opics in *conservation biology 2*. Chichester: John Wiley & Sons.

**SECTION A: DEFINITIVE MODULE RECORD**

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| **MODULE CODE:** CORN316 | **MODULE TITLE:** Monitoring Marine Ecosystems |

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| **CREDITS:** 20 | **FHEQ Level:** 6 | **JACS CODE:** C180 |
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| **PRE-REQUISITES:** None | **CO-REQUISITES:** None | **COMPENSATABLE:** Yes |

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| **SHORT MODULE DESCRIPTOR:**  This module builds on survey methods developed in Stage 1 and 2. Students will investigate and employ a range of methods including fieldwork, remote sensing, bio-indicators and ecological models to enable them to effectively plan and undertake monitoring programmes. Students will select a taxonomic group to specialise in and hone their identification and survey skills in that area. |

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| **ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*** | | | | | |
| WRITTEN EXAMINATION | | COURSEWORK | | PRACTICE | |
| **E1** (formally scheduled) |  | **C1** | 100% | **P1** |  |
| **E2** (OSCE) |  | **C2** |  | **P3** |  |
| **T1** (in-class test) |  | **A1** |  |  |  |

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| **SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Newquay |

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| **Professional body minimum pass mark requirement:** N/A |

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| **MODULE AIMS:**  To collect and collate *in situ* and remote sensing data. To examine the role of ecological models in monitoring the marine ecosystem. To develop taxonomic identification skills.  To analyse collated data and employ models that allow an appreciation of the marine environment. |

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| **ASSESSED LEARNING OUTCOMES:**  At the end of the module the learner will be expected to be able to:   1. Employ ecological models to monitor aspects of marine ecosystems. 2. Critically evaluate methods and strategies for monitoring marine animals and ecosystems. 3. Demonstrate a detailed knowledge of the taxonomy and survey methods for a group of marine organisms |

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| **DATE OF APPROVAL:** | 06/05/14 | **FACULTY/OFFICE:** | Academic Partnerships |
| **DATE OF IMPLEMENTATION:** | 01/09/14 | **SCHOOL/PARTNER:** | Cornwall College |
| **DATE(S) OF APPROVED CHANGE:** | N/A | **TERM:** | 16/AY/AU/M |

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| **Additional notes (for office use only):** |

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

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| **ACADEMIC YEAR:** 2016-17 | **NATIONAL COST CENTRE:** 111 |

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| **MODULE LEADER:** Angus Jackson | **OTHER MODULE STAFF:** Rebecca Allen, Jason Birt |

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| **SUMMARY of MODULE CONTENT**  Population and ecosystem models; satellite and aerial remote sensing (biotic and abiotic data); tagging technologies; photo-identification methods; dye tracing; pictorial, dichotomous and multi-access keys; online recording; devices for recording species identification in the field; research programmes for developing baseline studies; long term datasets; indicator species, stock assessment; pattern recognition; use of drones and other (semi) autonomous devices; development of databases for recording species records; bird ringing; JNCC Marine Mammal Observers; passive acoustic monitoring; use of citizen science for baseline recording; standard methods of recording and coding habitat type; underwater visual census; underwater camera work; active acoustical methods of seabed survey. |

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| **SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions]*** | | |
| **Scheduled Activities** | **Hours** | **Comments/Additional Information** |
| Lectures | 20 | Methods of monitoring populations of mobile marine megafauna, and then importance of long term population records. |
| Practical activity | 30 | Includes surveys for assignment 2, workshops |
| Self-directed learning | 150 | Directions given in lectures, moodle based activities. |
| **Total** | **200** | (NB: 1 credit = 10 hrs of learning; 10 credits = 100 hrs, etc) |

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| ***Category*** | ***Element*** | ***Component Name*** | ***Component Weighting*** | ***Comments include links to learning objectives*** |
| Written exam | E1 |  | 0% |  |
| T1 |  | 0% |  |
| Coursework | C1 | Essay  Poster/Media | 50%  50%  **100%** | Mapped to LO2  Online media to present results mapped to LO1 and LO3 |
| Practice | P1 |  | 0% |  |

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| **Updated by:** K.Haynes | **Date:** 18-03-14 | **Approved by:** R.Martin | **Date:** 18-03-14 |

**READING LIST:**

Berryman, A.A. (Author.) and KINDLMANN, p. (Author.) (2008) *Population systems : a general introduction*. 2nd edn. Springer.

Campbell, J.B. and Wynne, R.H. (2011) *Introduction to remote sensing*. 5th edn. London: Guilford

Clark, J.S. (2007) *Statistical computation for environmental sciences in R : lab manual for models for ecological data*. Lawrenceville, NJ: Princeton University Press.

Franklin, S.E. (2010) *Remote sensing for biodiversity and wildlife management: synthesis and applications*. New York: McGraw Hill Companies, Inc

Horning, N. et al. (2010) *Remote sensing for ecology & conservation : a handbook of techniques*. Oxford: Oxford University Press.

Kidmore, A. (Editor.) (2002) *Environmental modelling with GIS and remote sensing*. London: Taylor & Francis

King, M.G. (Author.) (2007) Fisheries biology, assessment & management. 2nd edn. Oxford: Blackwell Publishing.

Zimmer, W.M.X. (Author.) (2011) *Passive acoustic monitoring of cetaceans*. Cambridge: Cambridge University Press.