### Programme Specification

<table>
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<tr>
<th>Programme award and title:</th>
<th>BSc, BSc (Hons) Ecology</th>
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<tbody>
<tr>
<td>UCAS code:</td>
<td>C180</td>
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<tr>
<td>SCQF Qualification Level:</td>
<td>10</td>
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<tr>
<td>SCQF Credit Value:</td>
<td>484</td>
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### Educational aims of the programme:
Concise (e.g. a few sentences), general statement of aims and broad purposes of the programme

The programme aims to give our students:
- key knowledge in those aspects of the biological and environmental sciences which are specifically relevant to ecology;
- a familiarity with the techniques and methods by which organisms are studied in their environment;
- an appreciation of some of the key questions which are at the forefront of current ecological research and/or are of wider relevance and interest for human activity;
- the scope to develop their talents and their education so that they can pursue a diversity of careers which may require the application of their expertise in ecology and which may also demand skills in communication with others who may or may not have had a similar scientific training.

### Intended programme learning outcomes:
Outline (e.g. one or two paragraphs) of what the student will know, understand and be able to do as a result of their learning, expressed in the categories below. Please consider the contribution made to the student’s personal development planning (PDP) and future employability.

#### Knowledge and understanding
During the programme students will develop and demonstrate their knowledge and understanding of:
- the diversity of living creatures and the innate links between their structure, function and the environment;
- Earth processes which are immediately relevant to ecological systems at a range of temporal and spatial scales;
- the interactions between organisms as populations, as communities and as ecosystems and the balances which operate between organisms and their resources if ecosystems are to be conserved or managed;
- the implications of the theory of evolution for the individual organism, the population and the species;
- the scientific method as it is applied to ecology and its practise in both formal field, laboratory and IT classes including project work during which there is the opportunity for student-centered, independent and original research.

#### Subject-specific skills and other attributes

##### Intellectual skills
During the programme students will develop the skills to:
- retrieve ecological and other relevant information through an appreciation of the diversity of knowledge sources available and the use of that information for both directed and independent learning;
- appreciate how knowledge can be made use of by others and the implications of the concept of intellectual property;
- critically analyse knowledge both for its quality and for its relevance to a specific, defined objective relevant to ecology;
- pursue the principles and practise of hypothesis generation based on prior knowledge, observation and experiment;
- design relevant and safe laboratory and field experiments which will test a hypothesis with scientific rigour;
- manipulate raw data of various complexities, both arithmetically and statistically, which either they have generated or others have provided.

##### Practical skills
During the programme students will have to show that they have:
- a familiarity with, and an ability to use, laboratory and field equipment deployed on a routine basis in ecology;
- an appreciation of the hazards encountered in laboratory and field work and an ability to assess and minimise the...
### Learning, teaching and assessment strategies:

**Outline (e.g. one or two paragraphs) on overall approach taken to develop and assess learning outcomes, including any distinctive features**

The Ecology degree programme is structured in hierarchical, modular format. Students pursue their degree both full time and part time, progressing through stand-alone but coherent modules. During the first two years students study basic biology and environmental science through modules taken also by students who may intend to complete other biology or environmental science degree programmes. The knowledge and skills developed in modules taken during the first two years are required for, and further developed in, more advanced modules specifically programmed into the Ecology degree which are taken in years three and four. Students retain the option to pursue other degree programmes in Biological and Environmental Science until the end of the second year.

Most modules consist of lectures and practical work although the emphasis on one or the other depends on the specific module. Modules taken in the first two years place more emphasis on directed learning. In more advanced modules taken in years three and four greater emphasis is placed on independent learning and its communication in seminar and supervised project work.

Modules taken during the first two years are structured to:
- form a coherent sequence of modules in order to provide the essential knowledge and skills base of a degree in Ecology;
- ensure students have basic practical and field skills and that they understand the importance of their own and other’s safety in the progress of experimental work;
- develop the student’s curiosity for observation and enthusiasm for experiment;
- introduce communication, statistical and IT skills;
- ensure students have sufficient knowledge and practise in those aspects of mathematics, physics and chemistry which are required to pursue the biological sciences;
- introduce ecological topics at the same time as other topics relevant to the Biological and Environmental Sciences in sufficient depth that students can make an informed decision as to whether or not they want to specialise in Ecology during the subsequent two years.

Modules taken during the third and fourth years:
- advance students’ knowledge in aspects of Ecology which make greater intellectual demands and which approach the forefront of our knowledge in those particular areas in which staff have an expertise;
- provide opportunities for them to demonstrate that they have embedded their core knowledge and can bring it to bear on aspects of ecology which are open to debate or are partially understood;
- allow scope for experimental work which originates from the student’s own hypotheses and their design and is undertaken through supervision rather than prescribed direction;
- provide students with practise in tasks which involve the handling of larger amounts of information, including risks so that they can complete such work safely and responsibly with due recognition of other stakeholders;
- a competence to follow written procedures which describe experimental methods so as to achieve an objective which depends on their accuracy and precision;
- competence with IT facilities including word-processing, spreadsheets and statistical packages so that they can formulate their experience and knowledge, including scientific data, to produce text, tables, figures and bibliographies in accepted scientific format in order to complete assessed practical reports, scientific reviews and a final year thesis.

**Generic skills (e.g. information skills, communication skills, critical, analytical and problem-solving abilities) and other attributes**

By the end of the programme students will have pursued exercises which have developed their skills in, and assessed that they can:
- communicate using a wide range of written, electronic and oral methods with an emphasis on concision and coherence;
- complete several tasks within the same time frame and to manage their resources in both time and effort to produce outcomes to strictly enforced deadlines;
- …and that they have
  - confidence to complete tasks which may present them initially with difficulties intellectually, technically or through lack of experience (such as they may have in the physical and chemical sciences, and mathematics) and to find solutions to those problems through seeking appropriate advice and through self learning;
  - the initiative to pursue tasks which require lateral and independent thought;
  - an analytical and reflective approach which is consistent with effective and targetted personal development planning.
numerical data, and its collection and communication into formats acceptable to publishers of biological journals.

Assessment

Students are assessed by a diversity of methods which include written or practical examinations completed within a restricted timeframe and coursework which has substantially longer deadlines for completion.

Examinations include, either solely or in combination,:
• questions testing basic and limited knowledge requiring a response of very restricted word length or selection from a choice of predetermined answers;
• questions requiring extended responses which require students demonstrate a broader knowledge and an understanding which integrates a number of aspects of an ecological topic;
• data handling or other material which incorporates a degree of problem-solving.

Coursework includes, either solely or in combination,:
• written reports, usually incorporating the student's own results, submitted in the standard format used for the publication of experimental findings in the biological sciences;
• extended written responses, such as dissertations and reviews of the scientific literature, which relate to an ecologically relevant topic;
• presentations which assess their ability to communicate orally supported by computationally generated visual material;
• a thesis which reports the findings of their research project completed during the fourth year.

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<th>Professional/statutory body accreditation or recognition:</th>
<th>N/A</th>
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Further details:

Entry requirements: [http://www.external.stir.ac.uk/undergrad/entry_reqs/index.php](http://www.external.stir.ac.uk/undergrad/entry_reqs/index.php)

Programme structure: [http://www.calendar.stir.ac.uk/](http://www.calendar.stir.ac.uk/)

Relevant Subject Benchmark statement: [http://www.qaa.ac.uk/academicinfrastructure/benchmark/default.asp](http://www.qaa.ac.uk/academicinfrastructure/benchmark/default.asp)


Introduction/revision date: 2005 (revision)