

BSc (Hons) Ecology

1. Awarding institution/body: *University of Worcester*

2. Teaching institution: *University of Worcester*

3. Programme accredited by: *N/A*

4. Final award: *BSc Honours*

5. Programme title: *BSc Honours Ecology*

6. Pathways available: *Joint*

7. Mode and/or site of delivery: *Standard taught programme at the University of Worcester, St. John's Campus.*

8. Mode of attendance: *Full-time or part-time*

9. UCAS Code: *Depends on joint combination (see Prospectus)*

10. Subject Benchmark statement: *Earth Science, Environmental Science, Environmental Studies (ES3) (2007) QAA 151 02/07.*

<http://www.qaa.ac.uk/academicinfrastructure/benchmarks/statements/earthsciences.asp>

11. Date of Programme Specification preparation/revision: *September 2011*

12. Educational aims of the programme

The course aims to:

- a) Provide a rigorous and disciplined curriculum of organized, current knowledge and practice relating jointly to the discipline of 'Ecology' and the other subject being studied jointly so that students develop a sound understanding of their principles, theories and applications;
- b) Provide students with the opportunities to develop a range of subject –specific and transferable skills to support their undergraduate studies and to prepare them for employment and/or post-graduate study;
- c) Provide a supportive learning environment which acknowledges and responds to the diversity of student backgrounds and experiences, and which allows students the opportunity to realize their academic potential;
- d) Enable students to develop a capacity for sustained independent work and ability to work with others as part of a team;
- e) Develop students' skills of reflection, critical analysis and communication.

13. Intended learning outcomes and learning, teaching and assessment methods :

At the end of the course students who have successfully completed their studies should have:

Knowledge and understanding of:

- a) Ecology of species, populations, communities and landscapes, the interrelationship between these and the application of such knowledge;
- b) An appreciation for the need for continual evidence-based reflection and integration in the field of ecology;
- c) Subject specific terminology and practices;
- d) Methods of acquiring, interpreting and analyzing information with a critical understanding of the applications of ecology;
- e) The relevance of the knowledge and skills acquired on their course to professional activity, responsible citizenship and the world of work.

Examples of learning, teaching and assessment methods employed:

All modules deliver a range of subject specific material incorporating concepts and issues in those areas of Ecology appropriate to the award programmes.

The content of mandatory modules ensures that students are well versed in the essential

knowledge of the subject. Modules BIOS1200 ENVS1100, provide the introductory subject knowledge and context at Level 4. Development and applications of the subject is continued at Level 5 in the mandatory modules ENVS2100 and ENVS2103, whilst ENVS2004 prepares students for their Independent study at Level 6 (if they are undertaking an ecology based Independent Study). At Level 6 advanced material and applications are studied in ENVS3103 and ENVS3106 with a capstone module, ENVS3105 which allows integration of subject material, reflection and aspects of preparation for employment. The Independent study ENVS3002 (or equivalent in their other subject area) is a major enterprise which allows the student to plan, design and carry out a project which will employ the knowledge and skills acquired on the course.

Throughout the course students are able to select optional modules to study aspects of ecology and associated areas that are either of particular interest to them or to acquire specific skills.

Learning and teaching methods are varied throughout the levels of study to ensure appropriate and effective delivery of material in a style which is readily accessible to the students. This is achieved through a structured programme of lectures, field trips, guest lectures, tutorials, group work and VLE methods. Students are encouraged to be interactive in sessions through various questioning methods, class discussions and quizzes for example.

Modules throughout the course use a range of assessment methods to ensure that students have an opportunity to excel and none are disadvantaged through over-reliance on any one particular assessment mode. Details of assessments are given on the module specifications and on a table given in the Course Handbook. Examples include, reports, portfolios, examinations, presentations, species identification tests and essays.

Cognitive and intellectual skills:

- a) Recognize and use subject-specific theories, paradigms, concepts and principles;
- b) Search for, analyze, synthesize, summarize and present information critically, including past research;
- c) Collect and integrate several lines of evidence to formulate and test hypotheses;
- d) Apply knowledge and understanding to complex and multidimensional problems in familiar and unfamiliar contexts;
- e) Recognize moral and ethical issues of investigations and appreciate the need for professional codes of conduct;
- f) Use scientific evidence to inform the decision making processes;

- g) Commitment to continued professional development through the development of skills in relation to self-directed and independent study.

Examples of learning, teaching and assessment methods employed:

All modules involve the development of cognitive and intellectual skills. A table indicating which skills are specifically addressed in each module can be found in the Course Handbook.

Learning and teaching methods include for example at Level 4 reports of students' own practicals (ENVS1100, BIOS1200). Level 5 includes the evaluation of information to prepare practical reports (ENVS2103) and species recovery plans (ENVS2100) and the designing of a research proposal and choice of statistical methods (ENVS2004).

These aspects are developed further at Level 6 particularly in the Independent study (ENVS3002)(or equivalent in their other subject area) and other mandatory and optional modules. The module ENVS3105 presents an opportunity for a synopsis and practice of knowledge and principles learnt throughout the course.

Modules throughout the course use a range of assessment methods to ensure that students have an opportunity to excel and none are disadvantaged through over-reliance on one type of assessment. Details of assessments are given on the module specifications and on a table given in the Course Handbook. These include a large element of course work. Examples include the production of species recovery plans, evaluation of existing management plans, evaluation of experimental precision and accuracy.

Practical skills relevant to employment:

- a) Plan, conduct and report on investigations, including the use of secondary data;
- b) Collect, record and analyze data using appropriate techniques in the field;
- c) Undertake field and supporting laboratory investigations in a safe and responsible manner, completing and responding to risk assessment, rights of access, relevant health and safety regulations and sensitivity to the impact of investigations on the environment and stakeholders;
- d) Communicate effectively with individuals, establishing professional and ethical relationships within the ecology community;
- e) Recognise moral/ethical dilemmas and issues.

Examples of learning, teaching and assessment methods employed:

Many modules involve the development of practical skills. A table indicating which skills are specifically addressed in each module can be found in the Course Handbook.

Many modules incorporate an element of fieldwork and field visits. These are one of the key features of the course. Skills are taught and practiced so that students become competent and confident in the selection and use of the skills thus promoting their employability. Much of the teaching involves the examination of theories and their practical application by the use of case studies, in the classroom, use of guest lecturers and via field visits. Assessment is principally through the production of reports from field data collection and desktop studies, evaluation of published documents, and the production of management and other plans. The Independent Study is a major piece of work in which the students use skills and report on results.

Transferable/key skills:

- a) Receive and respond to a variety of information sources (e.g. textual, numerical, verbal, graphical);
- b) Communicate effectively with a variety of audiences in written, oral and graphical forms;
- c) Appreciate issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory;
- d) Prepare, process, interpret and present data using appropriate quantitative and qualitative techniques and packages;
- e) Solve numerical problems using computer based and non-computer based techniques;
- f) Use the internet critically as a means of communication and a source of information;
- g) Identify individual and collective goals and responsibilities and perform accordingly;
- h) Recognize and respect various views and opinions;
- i) Evaluate own and team performance;
- j) Develop skills for self-management, identification and attainment of targets and a flexible approach to study and work.

Examples of learning, teaching and assessment methods employed:

All modules involve the development of transferable/key skills. A table indicating which skills are specifically addressed in each module can be found in the Course Handbook.

These skills are introduced at Level 4 and are developed and reinforced throughout the course. Development of skills is reinforced by the effective use of a PDP portfolio. The mandatory modules ENV51100 BIOS1200 at Level 4 incorporate an assessment of skills via practical reports. Some of the Optional Level 4 modules also have a skills based element, such as ENV51102 and GEOG1002.

At a more advanced level, students acquire a range of skills from various specialist modules including use of VLE Blackboard, GIS, mapping, field and identification skills, research design and management skills, etc. Additionally numerical, data processing and statistical skills are taught and practiced (for example in ENVS2103, ENVS2004 and ENVS3002).

Students are strongly encouraged to undertake voluntary work with local conservation organizations and become student members of recognized Institutions (for example, the Institute of Ecology and Environmental Management) as well as participating in the student run Environmental and Conservation Society. Students are able to take a work placement module at Level 5 in which existing and new skills are practiced and their work assessed at the end of the placement period. Additionally students are encouraged to become involved in some of the conservation ecology research projects being undertaken by staff within the Institute as and when the opportunity arises.

Incorporation of group and team work into practical, project and field sessions promote a range of interpersonal skills and those of self-management.

All students are required to communicate effectively through a variety of media. Assessment will include the use of oral presentations, use of PowerPoint and posters, written work in a range of formats. Full details are given in the individual module specifications.

14. Assessment Strategy

Modules throughout the course use a range of assessment methods to ensure that students have an opportunity to excel and none are disadvantaged through over-reliance on one type of assessment. Assessment points occur throughout the semester after an introductory period for each module. Most modules have two assessment items. Students are notified about the contents of their assessments at the beginning of the module to allow them to organise their study effectively. Details of assessment briefs are included in the module handbooks distributed at the beginning of the semester and are also available on Blackboard. Additional supporting resources are also made available on Blackboard in many instances.

Assessment types include formal examinations, essays, practical files, field notebooks, writing and evaluation of management plans, report writing, desktop studies, short tests, species identification exercises, etc. Additional opportunities are provided within the modules for formative assessment and may take the form of multiple choice questions, quizzes, discussion and question and answer sessions.

Throughout all modules, assessments are made in line with assessment criteria (given as subject specific criteria and descriptors) and in accordance with the University's Assessment Policy and make full use of the UW grade descriptors when awarding grades. A table demonstrating how assessment methods at each level are mapped to modules is included in the Course Handbook for this course.

15. Programme Structures and Requirements

Award map for LEVEL 4

Module Code	Module Title	Credits (Number)	Status (Mandatory (M) or Optional(O))	Prerequisites (Code of Module required)
			Joint Honours	
<i>BIOS1200</i>	<i>Biological Diversity</i>	30	M	None
<i>ENVS 1100</i>	<i>Introduction to Ecology</i>	15	M	None
<i>ENVS1004</i>	<i>History of the Landscape</i>	15	O	None
<i>ENVS1102</i>	<i>Basis of Biological Surveying</i>	15	O	None
<i>GEOG1002</i>	<i>Mapping of the Environment</i>	15	O	None
<i>ENVS1101</i>	<i>Current Environmental Issues</i>	15	O	None

Joint Honours Requirements at Level 4

Students must take the two Mandatory modules BIOS 1200 and ENVS1100 from this course plus a minimum of 45 credits from their joint course. Two 15 credit free modules can be taken from the optional modules from those listed above (including shared modules from other subject areas) or from other modules offered in the UMS.

Award map for LEVEL 5

Module Code	Module Title		Status (Mandatory (M) or Optional(O))	Prerequisites (Code of Module required)
		Credits (Number)	Joint Honours	
ENVS 2004	<i>Research Methods and Statistics for Environmental Studies (if Independent Study is going to be ecology based)</i>	15	M	None
ENVS 2100	<i>Population and Community Ecology</i>	15	M	ENVS 1100
ENVS 2103	<i>Field Techniques in Ecology</i>	15	M	ENVS 1100
ENVS 2101	<i>Conservation Ecology of Habitats and Species (mandatory for those not undertaking doing BIOS2004)</i>	15	O (M)	ENVS 1100 ENVS 1102 ENVS 2100
ENVS 2104	<i>Ecology of Fresh Waters</i>	15	O	ENVS 1100
ENVS 2106	<i>Conservation Management Planning</i>	15	O	ENVS 1100 ENVS 1102 ENVS 2107
ENVS 2108	<i>Recreational Land Management</i>	15	O	None
GEOG 2005	<i>Geographical Information Systems</i>	15	O	None
BIOS 2010	<i>Animal Behaviour</i>	15	O	ENVS 1100
ENVS 2005	<i>Work Experience</i>	15	O	None

Joint Honours Requirements at Level 5

Students must take the three Mandatory modules ENVS 2004, ENVS 2100 and ENVS 2103 from this course plus a minimum of 45 credits from their joint course (students not intending to complete their Independent Study in Ecology must replace ENVS2004 with ENVS2101). Two 15 credit free modules can be taken from the optional modules from those listed above (including shared modules from other subject areas) or from other modules offered in the UMS.

Award map for LEVEL 6

Module Code	Module Title	Credits (Number)	Status (Mandatory (M) or Optional(O))	Prerequisites (Code of Module required)
			Joint Honours	
ENVS 3002	Independent Study (over 2 semesters)	30	M/O	ENVS2004 or ENVS 3108
ENVS 3108	Research Methods and Statistics for Environmental Studies - direct entry students level 6	15	M ¹	None
ENVS 3103	Restoration Ecology	15	M	ENVS 1100 ENVS 2100 ENVS1102 or ENVS2103
ENVS 3105	Project Management	15	M	None
ENVS 3106	Landscape Ecology	15	M	ENVS 1100 ENVS 2100 ENVS1102 or ENVS 2103
ENVS 3100	Residential Environmental Field Trip	15	O	ENVS1010 or ENVS1100 or ENVS1001
ENVS 3107	Ex-Situ Species Conservation and Management	15	O	None
ENVS 3102	Environmental Impact Assessment	15	O	ENVS1100 ENVS 1102 or ENVS 1010 ENVS 2103 or ENVS 2001
GEOG 3005	Geographical Information Systems	15	O	None (excluded combination GEOG2005)
BIOS 3014	Behavioural Ecology	15	O	None

Joint Honours Requirements at Level 6

Students must take the Mandatory modules ENVS3103, ENVS3105 and ENVS3106 plus the Independent Study module ENVS3002 (or equivalent in their joint subject). M¹ = only for direct entry students into Level 6 (and direct entry students will have to undertake their Independent Study from Semester 2 of one year to complete at the end of Semester 1 of the following year).

Students who choose to undertake their Independent Study in their other subject must choose one additional Optional module from those listed above (including those modules listed that are shared with another subject).

16. QAA Academic Infrastructure

This course has been developed with reference to the QAA Earth Science, Environmental Sciences, Environmental Studies (ES3) Benchmark Statement (2007) QAA 151 02/07. Hence the course incorporates the aims, objectives, learning outcomes, skills and practices advocated within this benchmark statement. The course follows the QAA and UW guidelines of work experience. The course operates at levels 4, 5 and 6 of the Framework for HE Qualifications.

17. Support for students

- Students following this course will encounter a wide range of learning experiences, including lectures, seminars, group work, laboratory and field practicals, workshops, and tutorials.
- All new students attend a week long induction at the start of the course with year 2 and 3 induction sessions at the start of each academic year.
- A comprehensive Course Handbook is provided online which details essential information about the course, availability of modules etc.
- All modules provide module handbooks for the students as paper copies and also on line. These include planned teaching activity, attendance requirements, assessment brief(s), assessment criteria and reading lists
- There is a VLE 'Blackboard' which has a section dedicated to the environmental subject areas. Additionally most modules also provide module-specific material, documents and activities through Blackboard.
- Students can obtain details of module availability, registration and results via the Student Online Learning Environment (SOLE).
- All students following this course will be provided with a study guide, given assistance where needed by staff, and have access to study skills assistance from student services and within subject.
- All students have a academic tutor who offers general support and guidance through the completion of their Personal Development Profile. All tutors have an open door policy.
- Library and ILS inductions.
- Library, IT, media and print support is provided by Information and Learning Services (ILS) staff through desk services and the support of professionally-qualified librarians

including a dedicated Academic Liaison Librarian for ISE. The Academic Liaison Team offers a portfolio of professional information services, including information literacy programmes for cohorts and one-to-one support, both in-person and online.

- Final year students are allocated a tutor to advise them in their work for the Independent Study.
- Students have the opportunity to study abroad for one semester under the ERASMUS scheme.
- The Careers Service provides information, advice and training opportunities for career planning in addition to such opportunities offered within the course.
- Equal opportunities via the Disability & Dyslexia Service which provides advice and support for students who have mental health difficulties, dyslexia, sensory or physical impairments or other difficulties. There is a dedicated Assistant Disability Coordinator for students with sensory impairments. Advice is also available on access to technology such as voice recognition and text-to-speech software. Much of the support provided is funded through the Disabled Students' Allowance (DSA).
- A range of student support services, including financial and accommodation advice.
- Student and academic support, representation and social networking via the Students' Union.
- All students are encouraged to take student membership of a professional organisation to enhance subject and employability skills.

18. Admissions policy, criteria and procedures

Admissions Policy

The University aims to be accessible; it is committed to widening participation and encouraging diversity in the student population. The Institute of Science and the Environment works closely with central student support services, including the Admissions Office, the Disability and Dyslexia Service and the International Office, to support students from a variety of backgrounds. We actively encourage and welcome people from the widest range of economic and cultural backgrounds, and value the contribution of mature learners. Admission to the course is in Semester 1 only of the academic year.

Entry requirements

The minimum entry requirements are 4 GCSEs (Grade C or above including English and mathematics) plus a minimum of 2 and maximum of 3½ A Levels or equivalent Level 3 qualifications, with a UCAS Tariff score as stated in the University prospectus.

Applicants must have studied Biology to at least AS level or equivalent, and normally applicants must have an A level pass in one of the science subjects or Geography. Applicants who do not have a science background will only be considered if they have appropriate work or volunteering experience.

Students may also enter with EDEXCEL qualifications e.g. EDEXCEL (BTEC) National Certificate or Diploma in an environmental or other science-based subject.

Students also may also enter with Access to Higher Education Diploma where science subjects have been studied.

Details of acceptable level 3 qualifications, policy in relation to mature students or applicants with few or no formal qualifications can be found in the prospectus or on the University web pages. Information on eligibility for accreditation of prior learning for the purposes of entry or advanced standing is also available from the University web pages or from the Registry Admissions Office (01905 855111).

Admissions procedures

Full-time applicants apply through UCAS (course code: depends on joint combination, please see the prospectus)

Part-time applicants apply directly to University of Worcester (UW)

Admissions/selection criteria

Students will be selected according to their qualifications (or predicted qualifications at A level or equivalent). Students with other qualifications will be selected on the submission of an essay and/or interview.

19. Methods for evaluating and improving the quality and standards of teaching and learning

Mechanisms for review and evaluation of teaching, learning and assessment, the curriculum and outcome standards include:

- Student Module evaluation and feedback for all modules
- An Annual Evaluation Report completed by the Course Leader
- Periodic Review and revalidation including external scrutiny
- Peer teaching observation
- External Examiner's Reports
- Academic staff annual appraisal

- Staff Development Away Days and other events
- ISE Policy on Approval (Module Outlines and Assignment Briefs) and Moderation of Student Work

Committees with responsibility for monitoring and evaluating quality and standards:

- ISE Quality Assurance Committee
- Environmental Sciences Course Committee
- Academic Quality Standards and Quality Enhancement Committee
- ISE and UW Ethics Committees
- Learning, Teaching and Student Experience Committee

Mechanisms for gaining student feedback on the quality of teaching and their learning experience:

- Module feedback questionnaires
- Environmental Sciences Course Committee
- Meetings with module tutors and academic tutor
- Induction, exit and other ad hoc surveys
- National Students Survey

20 Regulation of assessment

Requirements to pass modules

- Modules are assessed using a variety of assessment activities which are detailed in the module specifications.
- The minimum pass mark is D- for each module.
- Students are required to submit all items of assessment in order to pass a module, and in some modules, a pass mark in each item of assessment may be required.
- Some modules have attendance requirements.
- Full details of the assessment requirements for a module, including the assessment criteria, are published in the module outline.

Submission of assessment items

- Students who submit course work late but within 5 days of the due date will have work marked, but the grade will be capped at D- unless an application for mitigating circumstances is accepted.
- Students who submit work later than 5 days but within 14 days of the due date will not have work marked unless they have submitted a valid claim of mitigating circumstances.

- Students who fail to submit an item of assessment lose their right to reassessment in that module, and will be required to retake the module.
- For full details of submission regulations see URF.

Retrieval of failure

- Students are entitled to resit failed assessment items for any module that is awarded a fail grade, unless the failure was due to non-attendance or non-submission.
- Reassessment items that are passed are graded at D-.
- If a student is unsuccessful in the reassessment, they have the right to retake the module (or, in some circumstances, take an alternative module).

Requirements for Progression

- Students at Level 4 may be permitted to progress to Level 5 when they have passed at least 90 credits at Level 4.
- Students at Level 5 may be permitted to progress to Level 6 when they have passed at least 90 credits at Level 5.
- A student who fails 90 credits or more due to non-submission will be required to withdraw from the University.
- Students who pass less than 90 credits but have submitted all items of assessment will be required to retake modules.

Requirements for Awards

<i>Award</i>	<i>Requirement</i>
CertHE	Passed 120 credits at Level 4 or higher
DipHE	Passed a minimum of 240 credits with at least 105 credits at Level 5 or higher
Degree (non-honours)	Passed a minimum of 300 credits with at least 105 credits at Level 5 or higher and a minimum of 60 credits at Level 6
Degree with honours	Passed a minimum of 360 credits with at least 105 credits at Level 5 or higher and a minimum of 120 credits at Level 6

Classification

The honours classification will be determined by whichever of the following two methods results in the higher classification:

- classification determined on the profile of the grades from 45 credits attained at Level 5 and the best grades from 120 credits at Level 6. Level 5 and Level 6 grades count equally in the profile
- or
- classification determined on the best grades from 120 credits attained at Level 6 only

Institute-level Assessment Boards review and confirm results for modules, and the Board of Examiners considers students' mark profiles to make decisions about progression, awards and degree classifications as appropriate.

For further information on honours degree classification, see Section 17 of the [Undergraduate Regulatory Framework](#)

21. Indicators of quality and standards

External examiners for Environmental Science have confirmed that standards on the modules are comparable with those at other HE Institutions and have commented favorably on the range of assessments given, the quality of feedback to students and the extent to which fieldwork plays an important component of taught sessions.

Members of staff teaching on the course have been involved in a number of projects of note including work on the science PDP project; this has been presented at national conferences and has been identified as good practice within the university. Funding from Hereford and Worcester Lifelong Learning Network enabled staff to develop an interactive e-learning quiz which is now used in several Institutes across the University.

Staff within environmental sciences are actively involved in relevant conservation ecology research activities at a regional and national scale. In addition, they are involved in writing of text books, writing scientific papers, presenting research and conferences/symposia and consultancy/practice.

The University underwent a QAA Institutional Audit in March 2011. The audit confirmed that confidence can be placed in the soundness of the institution's current and likely future management of the academic standards of its awards and the quality of the learning opportunities available to students. The audit team highlighted several aspects of good practice, including the student academic representative (StARs) initiative, the proactive approach which supports the student experience for disabled students, the comprehensiveness of the student online environment (SOLE), the wide range of opportunities afforded to students to enhance their employability, the institution's

commitment to enhancement, and the inclusive approach to working with its collaborative partners.

The University has been awarded the accreditation of Investors in People (renewed in 2008).

22. Career Opportunities and Links with Employers.

Links with employers are maintained by visits to a variety of establishments and contacts with organisations such as the local Wildlife Trust. Students are encouraged to join subject associations such as the Institute of Ecology and Environmental Management to establish links and pursue career opportunities.

Careers undertaken by past graduates from the Environmental Sciences area have included:

- County Wildlife Trusts, Woodland Trust, National Trust, RSPB and other non-governmental organisations;
- Natural England, Environment Agency, Forestry Commission and other government agencies;
- Local and District Government, e.g. Countryside Services and Country Parks rangers, Rights of Way Officers, etc;
- Environmental Consultancies;
- Town and Country Planning;
- Technical Posts (e.g. Environmental monitoring);
- Post-Graduate Research (M.Sc./Ph.D);
- Management (e.g. retailing, financial services);
- Teacher Training (PGCE).
- Management (e.g. retailing, financial services);

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the module study guides and course handbook. The accuracy of the information contained in this document is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

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