

## Programme Specification

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### BSc (Hons) Ecology and Conservation 2020-21

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.

Awarding Institution	University of Southampton
Teaching Institution	University of Southampton
Mode of study	Full time
Duration in years	3 years following standard progression for a FT student
Accreditation details	N/A
Final award	Bachelor of Science (Honours)]
Name of award	Ecology and Conservation
Interim Exit awards	Bachelor of Science (Ordinary) Diploma of Higher Education Certificate of Higher Education
FHEQ level of final award	6
UCAS code	C181
Programme code	8579
QAA Subject Benchmark or other external reference	QAA Subject Benchmark Statements for Bioscience (2019) QAA Framework for Higher Education Qualifications (FHEQ)
Programme Lead	Dr Neil Gostling
Date specification was written	10/03/2020

### Programme Overview

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#### Brief outline of the programme

Ecological science will play an essential role in tackling the global challenges of the 21st century. Understanding how organisms interact with one another and their relationship with the environment is vital to the management of ecosystems in response to environmental change. Building on a strong biological foundation, the Ecology & Conservation programme at Southampton covers organism, population and community ecology and the application of practical solutions to current global challenges. Independent projects are a major component of the final year and provide experience in current ecological research. You will undertake a balanced programme of study, gaining the relevant skills and knowledge for a career path in ecology and conservation.

#### Learning and teaching

A broad range of teaching methods will be employed during the 3 year programme, including a combination of lectures, tutorials, practical classes and field-courses, in conjunction with coursework, and research projects. Throughout the programme you will be required to undertake independent reading both to consolidate and supplement the taught material and to broaden your knowledge and understanding of ecology and conservation. Analysis, problem solving and research skills are further developed in tutorials, laboratory practicals and project work.

There are two compulsory field-courses during parts 1 and 2: a part 1 trip to Spain exploring the Mediterranean biome and an in-depth part 2 field-course in the New Forest. There are further opportunities for fieldwork in part 3, including options for overseas experience. In part 3 you will undertake either an independent laboratory or field-based research project, or two short projects: which can be a combination of a short field research project, a literature-based project, bioscience business, bioscience education, ethics or a science communication project.

#### Assessment

Assessment of your knowledge base is achieved through a combination of written examinations and assessed coursework in the form of laboratory and fieldwork practical reports, essays, and project reports and presentations. Experimental and research skills are assessed through an appropriate combination of laboratory reports, project reports and presentations.

**Please note:** As a research-led University, a continuous review of our programmes is undertaken to ensure quality enhancement and to manage our resources. As a result, this programme may be revised during a student's period of registration. However, any revision will be balanced against the requirement that the student should receive the educational service expected. Please read our [Disclaimer](#) to see why, when and how changes may be made to a student's programme.

Programmes and major changes to programmes are approved through the University's programme validation process which is described in the University's Quality handbook.

## Special Features of the programme

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As an Ecology and Conservation student in the School of Biological Sciences, you will be able to select from a range of modules, reflecting the broad research interests of the academics across our department. This range and diversity of expertise is a strength of the University of Southampton.

In Part 1 you will undertake modules which will provide you with a foundational knowledge across the Biological Sciences, including development of practical skills. You will undertake practical sessions in our teaching laboratories in the Life Sciences building, and also undertake field exercises and attend a residential field trip.

In Part 2 you will be able to select optional modules, to begin to specialise in your knowledge, depending on your interests. There is the opportunity to carry out studies during semester 2 of year 2 at one of several partner universities outside of the UK (BIOL2042 Biological Sciences Study Abroad). Specific module choices available will be dependent on the university selected and further information should be obtained from the module coordinator.

In Part 3 you will undertake an independent research project from the range of 15ECTS and 7.5ECTS projects on offer (a total of 15ECTS of project work must be undertaken).

## Educational Aims of the Programme

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The aims of the programme are to:

1. Develop a knowledge and understanding of living organisms at several levels of biological organisation ranging from the molecular level, through to cells, whole organisms and ecosystems as well as viewing biology/ecology and conservation from an evolutionary perspective;
2. Provide knowledge and understanding of biological systems and processes in theory and through practical work;
3. Provide the opportunity for you to construct an individual programmes of study of ecology and conservation within a coherent framework, following a broad foundational knowledge of Biological Sciences;
4. Provide training and experience of relevant practical laboratory and field work skills;
5. Support your development of a range of transferable skills (information and communication technology, team working, written and oral communication, time management, planning, data collection, analysis and presentation), and the capacity to give a clear and accurate account of the subject;
6. Enable you to think critically and to show that you can pursue independent study;
7. Provide an education suitable for a wide variety of careers and to prepare you for higher degrees and careers in biological sciences research;
8. Provide the key skills that are transferable to other disciplines, so that you are capable of reaching your full potential, becoming an important member of society, including careers

in academic and/professional biological sciences fields and non-biological sciences professions, industry and commerce.

## **Programme Learning Outcomes**

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### **Knowledge and Understanding**

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Having successfully completed this programme you will be able to demonstrate knowledge and understanding of:

- A1. explanations of biological phenomena at a variety of levels (from molecular to ecological systems) and explain the relationship of evolutionary theory to their area of study
- A2. bioinformatic approaches in the analysis of large datasets
- A3. Chemistry and Physics, in depth and breadth to provide necessary knowledge of how the structure of biological macromolecules, including proteins and nucleic acids determines their biological properties
- A4. the impact on society of advances in the biosciences
- A5. the major developmental events in the life of a plant from germination to flowering and death;
- A6. the structure and function of various types of cells in unicellular and multicellular organisms, the structure and function of cell membranes, cell differentiation
- A7. comprehension and intelligent engagement with biogeochemical cycles and pathways
- A8. comprehension of nutrient and energy flow through individuals, populations and communities
- A9. the structure, biogeography and diversity of ecosystems in relation to climate, geology, soils, palaeo-historical, taxonomic and evolutionary factors
- A10. patterns of distribution of organisms in relation to biotic and abiotic factors
- A11. comprehension and critical analysis of population processes, dynamics and interactions, and associated models
- A12. comprehension and critical analysis of community structure, development, biodiversity, and associated models
- A13. the effects of such human interactions on natural populations and ecosystems
- A14. the impacts of harvesting resources, controlling pests/pathogens and different approaches to species management
- A15. ecological methodologies and data analyses
- A16. the multidisciplinary approach required to address ecological and environmental issues.

### ***Teaching and Learning Methods***

Taught material will be delivered using lectures, tutorials, laboratory and field based practicals and projects. Further self-learning through additional reading and research is expected.

### ***Assessment methods***

Experimental and research skills are assessed through some or all of the following: laboratory reports, project reports and presentations, Part 3 research project or dissertations. Analysis and problem solving skills are assessed through unseen written examinations, continual assessment, practical write-ups and computer-based exercises.

## **Subject Specific Intellectual and Research Skills**

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Having successfully completed this programme you will be able to:

- B1. Recognise and apply subject-specific theories, paradigms, concepts or principles
- B2. Access and evaluation bioscience information from a variety of sources and communicate the principles both orally and in writing in a way that is organised and logical, and recognises the limits of current hypotheses
- B3. Access biosciences databases and use appropriate selection criteria to mine, manipulate and interpret data
- B4. Plan, execute and present an independent piece of work, in which qualities such as time management, problem solving and independence are evident, as well as interpretation and critical awareness of the quality of evidence.

### ***Teaching and Learning Methods***

In addition to the methods described above, analysis and problem solving are further developed in tutorials and laboratory practicals. Practical and research skills are further developed through laboratory and field work, and research projects.

### ***Assessment methods***

Experimental and research skills are assessed through some or all of the following: laboratory reports, project reports and presentations, final year research project or dissertations. Analysis and problem solving skills are assessed through unseen written examinations, continual assessment, practical write-ups and computer-based exercises.

### **Transferable and Generic Skills**

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Having successfully completed this programme you will be able to:

- C1. Demonstrate strategies that enable you to update, maintain and enhance your knowledge of the biosciences
- C2. Communicate science to peers and non-scientists.

### ***Teaching and Learning Methods***

You will be helped to acquire these skills through all aspects of the formal teaching programme. In Parts 1 and 2 this will mainly be through tutorial and coursework, whilst in Part 3 your project work will enable you to further develop and practice many of the individual skills in one specific area of Ecology and conservation.

### ***Assessment methods***

Your skills will be assessed as described above. Most skills are assessed through examinations, continuous assessment and through your third year project or dissertations.

### **Subject Specific Practical Skills (optional)**

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Having successfully completed this programme you will be able to:

- D1. Experience and competence in a broad range of appropriate practical techniques and skills relevant to the biosciences, including data collection, analysis and interpretation of those data, and testing hypotheses and the ability to place the work in context and to suggest lines of further investigation
- D2. Record data accurately, and carry out statistical analyses of data
- D3. Demonstrate an awareness of professional standards, including Good Laboratory Practice for data collection, recording and interpretation.
- D4. An appreciation of ethical issues in relation to biological sciences practices.

### **Programme Structure**

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The programme structure table is below:

Information about pre and co-requisites is included in individual module profiles.

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

### **BSc (Hons) Ecology and Conservation**

## Part I

\*You must take 7.5 ECTS credits of Chemistry, either Chemistry of Life (semester 1 only) if you have studied A level Chemistry or an equivalent, or otherwise Introduction to Chemistry.

### Compulsory

Fundamentals of Biochemistry	BIOL1204	15 ECTS	Compulsory
Fundamentals of Cell Biology and Physiology	BIOL1025	15 ECTS	Compulsory
The Origins of Biodiversity	BIOL1029	15 ECTS	Compulsory
How to think like a Scientist	BIOL1030	7.5 ECTS	Compulsory
*Either, Introduction to Chemistry	CHEM1012	7.5 ECTS	Compulsory
Or, Chemistry of Life (Semester 1 only)	BIOL1028	7.5 ECTS	Compulsory

## Part II

### Compulsory

Evolution	BIOL2001	7.5 ECTS	Compulsory
Conservation Management Field Course	BIOL2041	7.5 ECTS	Compulsory
Pure and Applied Population Ecology	BIOL2004	7.5 ECTS	Compulsory
Quantitative Methods in Biological & Environmental Science	BIOL2008	7.5 ECTS	Compulsory

### Optional (Please choose 30 ECTS worth)

Flow of Genetic Information	BIOL2010	7.5 ECTS	Optional
Bioinformatics and DNA technology	BIOL2013	7.5 ECTS	Optional
Immunology, Infection and Inflammation	BIOL2022	7.5 ECTS	Optional
Microbiology – from the natural environment to disease	BIOL2038	7.5 ECTS	Optional
Animal Behaviour	BIOL2039	7.5 ECTS	Optional
Plant Development and Function	BIOL2007	7.5 ECTS	Optional
Principles of Pharmacology	BIOL2048	7.5 ECTS	Optional
Pharmacology	BIOL2049	15 ECTS	Optional
Cell Biology	BIOL2056	7.5 ECTS	Optional
Principles of Neuroscience	BIOL2051	7.5 ECTS	Optional
Neuroscience	BIOL2052	15 ECTS	Optional
Behaviour & Ecology Field Course	BIOL2055	7.5 ECTS	Optional
Freshwater Ecosystems	ENVS2033	7.5 ECTS	Optional
Environmental Impact Assessment	ENVS2066	7.5 ECTS	Optional
Water Pollution	ENVS2007	7.5 ECTS	Optional
Introduction to GIS	GEOG2010	7.5 ECTS	Optional
Remote sensing for Earth Observation	GEOG2007	7.5 ECTS	Optional
Global Climate Change	GEOG2032	7.5 ECTS	Optional
Phytoplankton and Primary Production	SOES2006	7.5 ECTS	Optional
Ecological Processes in the Marine Benthos	SOES2017	7.5 ECTS	Optional
Palaeobiology	SOES2032	7.5 ECTS	Optional

## Part III

**Optional/Core (Once selected, this module becomes core and must be passed at the pass mark)**

**You must take 15 ECTS of independent study. Either choose one of the following modules:**

Laboratory research project	BIOL3034	15 ECTS	Optional/core
Bioscience Business	BIOL3058	15 ECTS	Optional/core
Bioscience Education	BIOL3059	15 ECTS	Optional/core
Field research project	BIOL3061	15 ECTS	Optional/core
In-silico research project	BIOL3069	15 ECTS	Optional/core
External research project	BIOL3071	15 ECTS	Optional/core

**Or select two of the following 7.5 ECTS credit modules, one in each semester:**

**Literature-based research project (semester 1)	BIOL3031	7.5 ECTS	Optional/core
**Literature-based research project (semester 2)	BIOL3032	7.5 ECTS	Optional/core
Science communication (semester 1)	BIOL3060	7.5 ECTS	Optional/core
Short field project (semester 1)	BIOL3062	7.5 ECTS	Optional/core
**Extended Science communication (semester 2)	BIOL3066	7.5 ECTS	Optional/core
Bioethics Project (semester 2)	BIOL3073	7.5 ECTS	Optional/core

**Optional (Please choose 6)**

Current Topics in Cell and Developmental Biology	BIOL3001	7.5 ECTS	Optional
Plant Cell Biology	BIOL3003	7.5 ECTS	Optional
Evolution and Genetics	BIOL3010	7.5 ECTS	Optional
Molecular Recognition	BIOL3013	7.5 ECTS	Optional
Molecular Cell Biology	BIOL3014	7.5 ECTS	Optional
Regulation of Gene Expression	BIOL3015	7.5 ECTS	Optional
The Molecular & Structural Basis of Disease	BIOL3017	7.5 ECTS	Optional
Molecular Pharmacology	BIOL3018	7.5 ECTS	Optional
Systems Neuroscience	BIOL3020	7.5 ECTS	Optional
Cellular & Molecular Neuroscience	BIOL3021	7.5 ECTS	Optional
Cell Signalling in Health and Disease	BIOL3022	7.5 ECTS	Optional
Neuropharmacology of CNS Disorders	BIOL3025	7.5 ECTS	Optional
Selective Toxicity	BIOL3027	7.5 ECTS	Optional
Immunology	BIOL3037	7.5 ECTS	Optional
Neurodegenerative Disease	BIOL3048	7.5 ECTS	Optional
Applied Plant Biology	BIOL3051	7.5 ECTS	Optional
Biomedical Technology	BIOL3052	7.5 ECTS	Optional
Biodiversity & Conservation	BIOL3053	7.5 ECTS	Optional
Biofilms & Microbial Communities	BIOL3057	7.5 ECTS	Optional
Biofilms & Systems Biology	BIOL3063	7.5 ECTS	Optional
Cancer and Chromosome Biology	BIOL3064	7.5 ECTS	Optional
Biomedical Parasitology	BIOL3065	7.5 ECTS	Optional
Evolution & Development	BIOL3067	7.5 ECTS	Optional
Fluxes, Cycles & Microbial Communities	BIOL3068	7.5 ECTS	Optional
Tropical Ecology Field Course	BIOL3070	7.5 ECTS	Optional
Global Challenges in Biology	BIOL3074	7.5 ECTS	Optional
Environmental Law & Management	ENVS3013	7.5 ECTS	Optional
The Sustainability Professional	ENVS3020	7.5 ECTS	Optional
Advanced GIS	GEOG3006	7.5 ECTS	Optional
Remote Sensing for Earth Observation	GEOG3032	7.5 ECTS	Optional
Adapting to Climate Change	GEOG3057	7.5 ECTS	Optional
Biogeography	GEOG3068	7.5 ECTS	Optional

\*\*In part 3, you cannot take both BIOL3031 and BIOL3032, they should be combined with a different independent study module. BIOL3060 is an essential prerequisite in order to take BIOL3066.

A maximum of 2 modules can be taken from outside Biological Sciences within each part, and of these not more than one can be a UOSM coded module.

**Typical course content**

The programme of study is divided into modules. Each module is assigned a number of credit points (ECTS = European Credit Transfer Scheme) that relates to the hours of formal teaching plus the recommended time for private study (1 ECTS = 20 hours of total student effort). For each part, you will take certain compulsory modules and a selection of approved optional modules to give a minimum of 60 ECTS. A compulsory module is one that you must take (but need not pass, though a minimum of 25% is required for progression) to progress to the next level of study.

From Part 2 onwards, you may select your own choice of modules at each level to reflect your development of interests in Ecology and Conservation. The selection of modules is in consultation with your tutor and must conform to the degree programme regulations and undertaking prerequisite modules for more advanced part 2 and 3 modules.

## Progression Requirements

The programme follows the University's regulations for ***Progression, Determination and Classification of Results : Undergraduate and Integrated Masters Programmes*** as set out in the University Calendar. <http://www.calendar.soton.ac.uk/sectionIV/sectIV-index.html>

### Intermediate exit points (where available)

You will be eligible for an interim exit award if you complete part of the programme but not all of it, as follows:

Qualification	Minimum overall credit in ECTS credits	Minimum ECTS Credits required at level of award
BSc Ordinary degree	at least 150	30
Diploma of Higher Education	at least 120	45
Certificate of Higher Education	at least 60	45

If you successfully complete Part 1 you may switch to the degree programme in Zoology or Biology.

Learning outcomes specific to each intermediate exit point correspond to a sub-set of those for the programme as a whole and may be determined by consulting the module map at the end of this document.

## Support for student learning

There are facilities and services to support your learning some of which are accessible to students across the University and some of which will be geared more particularly to students in your particular Faculty or discipline area.

The University provides:

- library resources, including e-books, on-line journals and databases, which are comprehensive and up-to-date; together with assistance from Library staff to enable you to make the best use of these resources
- high speed access to online electronic learning resources on the Internet from dedicated PC Workstations onsite and from your own devices; laptops, smartphones and tablet PCs via the Eduroam wireless network. There is a wide range of application software available from the Student Public Workstations.
- computer accounts which will connect you to a number of learning technologies for example, the Blackboard virtual learning environment (which facilitates online learning and access to specific learning resources)
- standard ICT tools such as Email, secure filestore and calendars.
- access to key information through the MySouthampton Student Mobile Portal which delivers timetables, Module information, Locations, Tutor details, Library account, bus timetables etc. while you are on the move.
- IT support through a comprehensive website, telephone and online ticketed support and a dedicated helpdesk in the Hartley Library.
- Enabling Services offering support services and resources via a triage model to access crisis management, mental health support and counselling. Support includes daily Drop In at Highfield campus at 13.00 – 15.00 (Monday, Wednesday and Friday out of term-time) or via on-line chat on weekdays from 14.00 – 16.00. Arrangements can also be made for meetings via Skype.

- assessment and support (including specialist IT support) facilities if you have a disability, long term health problem or Specific Learning Difficulty (e.g. dyslexia)
- the Student Services Centre (SSC) to assist you with a range of general enquiries including financial matters, accommodation, exams, graduation, student visas, ID cards
- Careers and Employability services, advising on job search, applications, interviews, paid work, volunteering and internship opportunities and getting the most out of your extra-curricular activities alongside your degree programme when writing your CV
- Other support that includes health services (GPs), chaplaincy (for all faiths) and 'out of hours' support for students in Halls and in the local community (18.00-08.00)
- A Centre for Language Study, providing assistance in the development of English language and study skills for non-native speakers.

The Students' Union provides

- an academic student representation system, consisting of Course Representatives, Academic Presidents, Faculty Officers and the Vice-President Education; SUSU provides training and support for all these representatives, whose role is to represent students' views to the University.
- opportunities for extracurricular activities and volunteering
- an Advice Centre offering free and confidential advice including support if you need to make an academic appeal
- Support for student peer-to-peer groups, such as Nightline.

Associated with your programme you will be able to access:

- An induction programme at the start of the course, which will provide orientation, information on modules, courses, library and computer facilities.
- Programme handbooks, module handbooks and material on the web.
- Library and academic skill packages.
- Well-equipped teaching laboratories.
- Academic and pastoral support from members of staff, including your personal academic tutor, this support includes scheduled meetings at appropriate occasions during the academic year.
- Access to all administrative and academic material on the FELS Hub, available on Blackboard (<http://www.blackboard.soton.ac.uk>).
- Access to all academic staff through an appointment system and e-mail.
- Access to administrative staff in the Faculty Student Offices during the normal working day.
- Feedback on assessment.

## Methods for evaluating the quality of teaching and learning

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You will have the opportunity to have your say on the quality of the programme in the following ways:

- Completing student evaluation questionnaires for each module of the programme.
- Acting as a student representative on various committees, e.g. Staff:Student Liaison Committees, School Programmes Committee OR providing comments to your student representative to feed back on your behalf.
- Serving as a student representative on Faculty Scrutiny Groups for programme validation.
- Taking part in programme validation meetings by joining a panel of students to meet with the Faculty Scrutiny Group.

The ways in which the quality of your programme is checked, both inside and outside the University, are:

- Regular module and programme reports which are monitored by the Faculty
- Programme validation, normally every five years.
- External examiners, who produce an annual report
- Professional body accreditation/inspection
- A national Research Assessment Exercise (our research activity contributes directly to the quality of your learning experience)
- Institutional Review by the Quality Assurance Agency

Additional information may be added by faculties in this section – for example if there are additional quality measures in place in respect of professional placements, programmes operated overseas, etc.

Further details on the University's quality assurance processes are given in the [\*Quality Handbook\*](#).

## Career Opportunities

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Students will gain an understanding across Biological Sciences, becoming more focussed and specialised throughout the three year programme, leading to a wide variety of potential careers. This includes: education, within academia (following relevant postgraduate qualifications) and schools; non-governmental organisations, such as charities; careers within agriculture; biological science industry positions; journals and science communication. For students who decide that they do not wish to pursue a career in Ecology and Conservation, they will find that their degree also provides transferrable skills, such as project management and data handling, that are useful for a wide variety of professions.

## External Examiner(s) for the programme

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**Name** Prof Sebastian Shimmeld  
**Institution.** University of Oxford

**Name** Prof Claire Grierson  
**Institution.** University of Bristol

Students must not contact External Examiner(s) directly, and external examiners have been advised to refer any such communications back to the University. Students should raise any general queries about the assessment and examination process for the programme with their Course Representative, for consideration through Staff: Student Liaison Committee in the first instance, and Student representatives on Staff: Student Liaison Committees will have the opportunity to consider external examiners' reports as part of the University's quality assurance process.

External examiners do not have a direct role in determining results for individual students, and students wishing to discuss their own performance in assessment should contact their Personal Academic Tutor in the first instance.

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**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 can be found in the programme handbook.

# Appendix 1:

## Additional Costs

Students are responsible for meeting the cost of essential textbooks, and of producing such essays, assignments, laboratory reports and dissertations as are required to fulfil the academic requirements for each programme of study. In addition to this, students registered for this programme also have to pay for:

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
Approved Calculators		Candidates may use calculators in the examination room only as specified by the University and as permitted by the rubric of individual examination papers. The University approved models are Casio FX-570 and Casio FX-85GT Plus. These may be purchased from any source and no longer need to carry the University logo.
Stationery		You will be expected to provide your own day-to-day stationery items, e.g. pens, pencils, notebooks, etc). Any specialist stationery items will be specified under the Additional Costs tab of the relevant module profile.
Textbooks		Where a module specifies core texts these should generally be available on the reserve list in the library. However due to demand, students may prefer to buy their own copies. These can be purchased from any source.  Some modules suggest reading texts as <b>optional</b> background reading. The library may hold copies of such texts, or alternatively you may wish to purchase your own copies. Although not essential reading, you may benefit from the additional reading materials for the module.
Equipment and Materials Equipment		
	Field Equipment and Materials:	A number of essential items will be provided to you e.g.: field notebook(s); hand lens. If items provided are lost replacements can be purchased from:  However, you will need provide yourselves with a ruler; a pair of compasses; set squares; protractor; pencils (including coloured); eraser; calculator, penknife. These can be purchased from any source.
	Laboratory Equipment and Materials:	safety goggles; laboratory coat

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
IT	Computer Discs	Students are expected to provide their own portable data storage device.
	Software Licenses	All required software is provided
	Hardware	It is advisable that students provide their own laptop or personal computer, although shared facilities are available across the University campus.
Clothing	Lab Coats	One laboratory coat and a pair of safety spectacles are provided at the start of the programme to each student. If these are lost the student must replace them at their own expense. The Students Union Shop stock these items.
	Fieldcourse clothing:	You will need to wear suitable clothing when attending fieldcourses, e.g. waterproofs, walking boots. You can purchase these from any source.
Printing and Photocopying Costs		<p>Coursework such as essays; projects; dissertations may have to be submitted electronically or in hard copy, ensure that you follow the guidelines in the module mini-guide.</p> <p>The School of Biological Sciences a printing credit for printing lecture handouts. The University printing costs are currently:</p> <p>A4 - 4p per side (black and white) or 18p per side (colour)  A3 - 8p per side (black and white) or 35p per side (colour)</p>
Fieldwork: logistical costs	Accommodation:	<p>For <i>compulsory</i> residential fieldcourses accommodation and travel are normally provided though where necessary, you will be expected to cover the cost of getting to and from the departure point which may be an airport, a train station or a field station. You are usually expected to cover the costs of food and drink, although some courses may include meals.</p> <p>For <i>optional</i> fieldcourses, you may be asked to make a contribution to the travel and/or accommodation costs.</p> <p>Undergraduates are automatically covered under the University's travel insurance whilst on organised and supervised fieldcourses. Those travelling independently in connection with their programme can be included under the University's travel insurance upon application – there may be a cost attached to this.</p> <p>There are also opportunities to undertake fieldcourses with another organisation, e.g. Operation</p>
	Insurance	
	Travel costs	
	Immunisation/vaccination costs	
	Other:	

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
		Wallacea. Where necessary students will need to arrange and pay for any vaccinations.  Specific details on what additional costs there are detailed in the individual module profiles which can be found under the modules tab of the <a href="#">programmes details</a> of the relevant academic unit.
<b>Placements (including Study Abroad Programmes)</b>	Accommodation	Students who choose to go on an industrial placement at the end of Part 2 can expect to cover costs for health and travel insurance, accommodation and living expenses; travel costs; visa costs.  This will vary depending on which country you are travelling to.
	Insurance	
	Medical Insurance	
	Travel costs	
	Immunisation/vaccination costs	
	Disclosure and Barring Certificates or Clearance	
	Translation of birth certificates	
Other		
<b>Conference expenses</b>	Accommodation	
	Travel	
<b>Optional Visits (e.g. museums, galleries)</b>		Some modules may include optional visits to a museum, galleries, etc. You will normally be expected to cover the cost of travel and admission, unless otherwise specified in the module profile.
<b>Professional Exams</b>		
<b>Parking Costs</b>		
<b>Anything else not covered elsewhere</b>		

In some cases you'll be able to choose modules (which may have different costs associated with that module) which will change the overall cost of a programme to you. Details of such costs will be listed in the Module Profile. Please also ensure you read the section on additional costs in the University's Fees, Charges and Expenses Regulations in the University Calendar available at [www.calendar.soton.ac.uk](http://www.calendar.soton.ac.uk).

Appendix 2: Programme Learning Outcome Map

<b>Programme Specification Learning Outcomes</b>	BIOL1 AAA Fundamentals of Biochemistry	BIOL1 BBB Fundamentals of Cell Biology and Physiology	BIOL1 XXX The Origins of Biodiversity	BIOL1 020-2 How to think like a Scientist	CHEM1012 or BIOL1EEE Chemistry of Life (Semester 1 only)	BIOL2001 Evolution	BIOL2004 Pure and Applied Population Ecology	BIOL2047 Animal Conservation	BIOL2041 Conservation Management field course	BIOL2008 Quantitative Methods in Biological & Environmental Science	30 Credits of independent study*
<b>Knowledge and Understanding</b>											
1			X			X			X		
2				X		X					
3	X				X						
4			X			X					X
5			X								
6		X									
7			X								
8			X						X		
9			X						X		
10								X	X		
11							X		X		
12			X				X	X	X	X	
13							X		X		
14									X		
15									X	X	
16									X		X
<b>Subject Specific Intellectual and Research Skills</b>											
1	X	X	X			X			X	X	X
2											X
3						X			X	X	X
4											X
<b>Transferable and Generic Skills</b>											
1			X								X
2				X							X
<b>Subject Specific</b>											
1	X	X	X	X							
2				X		X				X	
3	X	X	X	X		X			X		X
4				X							X

\* Either, one of:  
 BIOL3034 Laboratory research project,  
 BIOL3058 Bioscience Business  
 BIOL3059 Bioscience Education  
 BIOL3061 Field research project  
 BIOL3069 In-silico research project  
 BIOL3071 External research project

Or, two of:  
 BIOL3031 Literature-based research project (semester 1)  
 BIOL3032 Literature-based research project (semester 2)  
 BIOL3060 Science communication (semester 1)  
 BIOL3062 Short field project (semester 1)  
 BIOL3066 Extended Science communication  
 BIOL3073 Bioethics Project (semester 2)