Programme Specification

Integrated Master of Science (MSci), Natural Sciences: 2019-20

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	4 years, following standard progression for a full-time student
Accreditation details	Not Applicable
Final award	Integrated Masters (MSci)
Name of award	Natural Sciences
Interim Exit awards	Bachelor of Science (Honours) Bachelor of Science (Ordinary) Diploma of Higher Education Certificate of Higher Education
FHEQ level of final award	7
UCAS code	4T88
QAA Subject Benchmark or other external reference	QAA Framework for Higher Education Qualifications (FHEQ) QAA subject benchmarks (Chemistry, Physics, Biosciences and Earth Sciences)
Programme Leads	Prof G S Attard, Dr A C Jensen, Dr I Tews
Date specification was written	07/08/2013
Date Programme was validated	20/03/2013
Date specification last updated	July 2017

Programme Overview

Brief outline of the programme
This four year integrated master of natural sciences programme is built on a foundation of key multidisciplinary modules that use real-life case studies and contexts to help you acquire, integrate and use knowledge from different scientific disciplines to address major scientific challenges such as genetic engineering, novel energy sources, detection of specific chemicals, biodiversity and drug discovery. As an undergraduate MSci Natural Sciences Masters degree student you will also choose from many exciting optional modules to learn about subjects and topics that particularly interest you; guidance from our academics will help you make your selection. We will encourage you to explore topics in sociology, management and law to help you understand societal aspects of the application of science. In your third year of MSci Natural Sciences you will undertake an individual research project and in your final year a six month full-time research placement.

Learning and teaching
During this natural sciences degree you will be taught through a combination of lectures, tutorials, practical classes, coursework and projects. You will also carry out an independent research project in your third year and a six month research placement in your fourth year.

During the first two years, you will develop generic and transferable skills, as well as practical skills, through compulsory and optional taught modules; in your third and fourth years, practical research projects will enable you to develop and practise these skills further.

Assessment
There will be continuous assessment for the multidisciplinary modules and continuous assessment and written examinations at the end of each semester for all other modules. We will assess your experimental and research skills through laboratory reports, project and placement reports and presentations.

Please note: As a research-led University, we undertake a continuous review of our programmes 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.

Educational Aims of the Programme

The aims of the programme are to provide you with:

1. A unique educational opportunity to fulfil your potential in science by taking charge of your education and being actively involved in developing an individual programme of study tailored to your interests, and by having unprecedented access to the University's education and research resources.
2. A stimulating, supportive learning and discovery environment, with a range of interesting and contemporary courses informed by cutting edge research in areas of societal relevance or scientific importance.
3. The opportunity to develop conceptual and practical (laboratory and field work) skills across the natural sciences that will provide a rich resource for continued independent learning and professional development following graduation.
4. The opportunity to develop background knowledge across the natural sciences that will provide a framework for independent learning and acquisition of in depth technical knowledge in areas of interest to you.
5. The ability to think beyond the limits of individual disciplines and have the practical skills needed to tackle the complexity that characterizes real-world problems.
6. An opportunity for you to develop the ability to think critically and to show that you can pursue independent study.
7. An opportunity to develop problem solving skills in the context of complex real-world problems or challenges.
8. An opportunity to develop a range of human skills (team working, scientific leadership, written and oral communication, time management, research planning, data collection, analysis and presentation).
9. A range of independent research projects with world-leading research teams.
10. A range of six-month full-time research placements within the University of Southampton or with other universities in the UK or overseas.
11. An education and training suitable for a wide variety of careers and to prepare you for higher degrees and careers across the natural sciences disciplines (Chemistry, Physics, Biology, Ocean & Earth Sciences) and multidisciplinary areas.
12. The capability of life-long learning, study and enquiry.

Programme Learning Outcomes

Knowledge and Understanding

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

A1. The atomic, molecular and electronic structure of matter;
A2. Reactivity: organic molecules (functional group chemistry, making and breaking bonds) and inorganic compounds (ligands and complexes);
A3. Thermodynamics and kinetics;
A4. Spectroscopy and imaging;
A5. Basic methods of molecular biology and genetic modification;
A6. Analytical methods in chemistry and molecular biology;
A7. The principles of ecology and ecosystem dynamics;
A8. The principles of biogeochemical cycles;
A9. The principles of atmospheric chemistry;
A10. Fundamental microbiology;
A11. Principles of materials science;
A12. Basic cell biology and physiology;
A13. Fundamental aspects of medicinal chemistry and drug design;
A14. Basic mathematical methods and quantitative modelling of data;
A15. Computer programming and scientific computing;
A16. The theory and practical acquisition, analysis and interpretation of biological, chemical and physical, data, across a range of science applications.

In addition you should be able to demonstrate a detailed knowledge and advanced understanding within subject specific options selected from the range available such as:

A17. The principles of nutrient and energy flow through individuals, populations and communities;
A18. Patterns of distribution of organisms in relation to biotic and abiotic processes, dynamics and interactions;
A19. Molecules of life; principles of biochemistry and enzymology;
A20. Community structure, development, biodiversity in both terrestrial and marine environments;
A21. Human interactions with natural populations and ecosystems, including habitat modification, pollution, exploitation and conservation;
A22. Genes and gene expression and genetics mechanisms;
A23. Ecological and evolutionary interactions of organisms with each other and the environment;
A24. Structure and function of various types of cells in unicellular and multicellular organisms, the structure and function of cell membranes, cell differentiation;
A25. Mathematical modelling of physical and biological processes;
A26. Ocean and earth systems;
A27. Ocean physics and processes;
A28. Photonics and light-matter interactions;
A29. Electricity and magnetism;
A30. Mechanisms of organic reactions;
A31. Quantum chemistry and bonding in molecules and extended solids;
A32. Waves and electromagnetic radiation;
A33. Inorganic materials synthesis;
A34. Synthesis of organic compounds;
A35. Sedimentary systems and processes;
A36. Nanotechnology;
A37. Functional materials;
A38. Bioinformatics
A39. Principles of kinematics, mechanics and vibration
A40. Principles of geographic information systems
A41. Environmental impact assessment
A42. Environmental pollution: sources, remediation and mitigation
A43. Principles of probability and statistics
A44. Ethics assessment
A45. Socio-economic impacts

Teaching and Learning Methods
You will be taught through a combination of lectures, tutorials, workshops, practical classes, coursework and projects. In year 3 you will undertake an independent research project. In the summer of year 3 you will undertake a six-month full-time research placement.

The modules that comprise the backbone of the Natural Sciences programme adopt a problem-based (or context-based) learning approach. This approach focuses on developing your independent learning and critical thinking skills by addressing scientific concepts in the real-world contexts in which they arise. These backbone NatSci modules comprise 8-10 lectures, 10-12 workshops and 5-10 group-work sessions. They also entail some 30-40 hr of directed reading and 20-25 hr of independent reading.

In addition to the methods described in the sections above you will be supervised in practical classes and during both your project and placement.

You will be helped to acquire and develop generic and transferrable skills through aspects of the formal teaching programme. In the early years this will mainly be through tutorial and coursework, whilst in years three and four your research work will give you ample opportunity to further develop and practise many of the individual skills.

Throughout the programme you will undertake independent reading both to supplement and consolidate the taught material and to broaden your knowledge and understanding of science.

Assessment methods
The modules that comprise the backbone of the Natural Sciences programme are assessed exclusively by continuous assessment to test your acquisition of the appropriate level of technical knowledge, your ability to integrate knowledge across disciplines, and your independent learning and critical thinking skills. Assessment comprises two pieces of assessed work, requiring 20 – 30 hr of independent study, together with a final assessment that will be in the form of an outline research proposal, which will require 20 -25 hr of independent study. You will receive detailed guidance from staff on how to prepare for these assessments.

For all other modules you will be assessed by a combination of continuous assessment and written examinations at the end of each semester to test your knowledge and understanding of the lecture and tutorial material. Continuous assessment is based on performance in practicals and/or independent reading and synthesizing and critically assessing scientific information.

Your subject specific skills will be assessed as described in the section above. Experimental and research skills are assessed through an appropriate combination of laboratory reports, project/placement reports and presentations.

Subject Specific Intellectual and Research Skills

Having successfully completed this programme you will be able to:

B1. Formulate and test hypotheses by planning, conducting and reporting a significant programme of research in any of the natural sciences disciplines (Chemistry, Biology, Physics, Ocean & Earth Science) or in multidisciplinary areas;
B2. Design and plan laboratory-based experiments and collect observational data;
B3. Design and plan field-based experiments and collect observational data;
B4. Undertake synthesis of a range of organic or bio-organic molecules;
B5. Undertake the synthesis of a range of inorganic compounds
B6. Genetically modify bacteria;
B7. Independently locate and retrieve scientific data and information;
B8. Independently integrate and evaluate data and information from a wide range of sources, including primary source materials in peer-reviewed journals, on line resources and experimental data;
B9. Analyse critically and solve complex scientific problems set in real-world contexts;
B10. Independently integrate knowledge and skills from across the various scientific disciplines;
B11. Conduct risk assessments concerning the use of equipment, and laboratory and field procedures.
B12. Integrate societal, ethical and legal issues in the planning and conduct of scientific research.

Teaching and Learning Methods
For both the research project and the research placement you will join the research group of a member of staff whose project or area of research you will have chosen, This member of staff will be your project/placement supervisor. The emphasis during both project and placement will be on independent working, but you will get some support from the more senior members of the group as well as from your supervisor. You will be given frequent informal formative. Formal formative feedback will be given based on brief regular interim progress reports that you write as you go along.

Assessment methods
Your achievement of the learning outcomes relating to Subject specific Intellectual and Research skills will be assessed through your project reports, interim reports and practical write ups, and will focus on:

You will be assessed for:

- Clarity of expression and overall quality of report
- Following instructions on report format and length
- Quantity and quality of data/results/observations
- Critical evaluation of prior work
- Critical analysis and interpretation of data/results/observations from the project
- Evidence of original thinking
- Quality of record keeping and compliance with Health & Safety requirements.

You will also be assessed on the following through your performance during a short viva voce examination:

- overall understanding of the context of the project (e.g. prior work, potential societal impact of findings)
- synoptic understanding of broad science principles relevant to the project
- ability to answer questions precisely and concisely
- ability to discuss critically and interpret data/results/observations

Transferable and Generic Skills

The human skills you will develop during your degree will enhance your employability options on graduation.

Having successfully completed this programme you will be able to:

C1. Communicate/present effectively both verbally and in writing on a range of topics across the sciences, to both specialised and non-specialised audiences;
C2. Work with, and within, a group towards defined outcomes;
C3. Use information technology and other resources to find, extract and synthesise information;
C4. Solve problems relating to qualitative and quantitative information;
C5. Learn independently through critical enquiry;
C6. Demonstrate you have the ability to undertake appropriate further training;
C7. Manage resources and time.

Teaching and Learning Methods
You will develop a set of Transferable and Generic skills through the modules that you attend by undertaking group-work, individual activities and through guidance from members of the module delivery team. You will have opportunities to practice these skills throughout the module and you will be given frequent informal formative feedback by members of the module delivery team and by your peers. You will also provide this type of feedback to others in the module.

Assessment methods
Your development of Transferable and Generic skills will be assessed through observation by members of the NATS module delivery teams, your programme tutors and through peer review.

Graduate Attributes

Graduate Attributes are the personal qualities, skills and understanding you can develop during your studies. They include but extend beyond your knowledge of an academic discipline and its technical proficiencies. Graduate Attributes are important because they equip you for the challenge of contributing to your chosen profession and may enable you to take a leading role in shaping the society in which you live.

We offer you the opportunity to develop these attributes through your successful engagement with the learning and teaching of your programme and your active participation in University life. The skills, knowledge and personal qualities that underpin the Graduate Attributes are supported by your discipline. As such, each attribute is enriched, made distinct and expressed through the variety of learning experiences you will experience. Your development of Graduate

Attributes presumes basic competencies on entry to the University.

Programme Structure

Typical course content

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.

The natural sciences programme is built on a backbone of key interdisciplinary modules (referred to as NATS modules) that use real-life case studies and contexts to help you acquire, integrate and use knowledge from different scientific disciplines (e.g. Chemistry, Biology, Physics, Oceanography) to address major scientific challenges such as genetic engineering, novel energy sources, detection of specific chemicals, biodiversity and drug discovery. As an undergraduate MSci natural sciences masters degree student you will also choose from many optional modules from across science and engineering to learn about subjects and topics that particularly interest you; guidance from academic members of staff will help you make your selection. You will be encouraged to explore topics in sociology, management and law to help you understand societal aspects of the application of science.

Each taught NATS module (one per semester) is worth 7.5 ECTS and comprises 8-10 lectures, 10-12 workshop sessions and 5-10 group work sessions. Both the workshop and group work sessions will make use of peer-assisted learning, as well as staff-led learning. In addition, these modules will entail 35-40 hours of directed reading (using on line resources provided as part of the module) and 20-25 hours of independent reading. Each NATS module will have 4 pieces of assessed work, each of which involves elements of both formative and summative assessment. The overall outcome of the module will be based on the summative elements of the assessments.

In addition to a NATS module, in each semester you will choose three further modules, each worth 7.5 ECTS. Typically these modules will comprise of up to 60 hours of teaching (which includes lectures, practicals and tutorials) and up to 90 hours of independent study. These modules are chosen after the University's lecture timetable is published; this is so you and your tutor can determine which combinations of your selected modules are allowed by the timetable. Most of these modules are assessed by examination at the end of the semester, in which they are delivered. Some of these modules, once chosen, will be designated as being a compulsory for your degree pathway, while others will be elective (i.e. you are free to choose whichever course you want, provided the timetable allows). On-going from year one to year four an increasing proportion of the non-NATS modules will comprise elective modules,

In the third and fourth years, you will have the opportunity to join a research group and conduct original research in a multidisciplinary area of activity. In year 3 you will conduct a research project worth 15 ECTS (corresponding to a nominal 300 hours of study) spanning both semesters. You will be able to choose from a selection of projects offered by members of staff across the University, or you may be able to devise your own project through discussion with potential supervisors. In year 4 you will have a six- month placement that carries 30 ECTS. This is a full time placement that runs over the summer of year 3 and through to the end of semester 1 of year. Typically the placement will be with a research group in the University of Southampton, but it may be possible to set up placements at other Universities (in the UK or overseas) as well as in industry laboratories. You have a choice of placement as well as the opportunity to contribute to setting up a new placement if appropriate.

Special Features of the programme

Significant features of the programme are:

- NatSci specific modules on topics that require an integrated multidisciplinary approach to science
- Emphasis on independent learning and core skills across the natural sciences through addressing 'real world' problems
- Tailoring of pathway through the course to reflect student interests and aptitudes as well as their career aspirations
- Developing independent learning, critical thinking and problem solving skills, within a 'hard' science context, that will position students for a broad range of employment options.
- Full-time six month research placement in an academic or industrial research group

Programme details

Details of the Programme Structure may be found on the Academic Unit web site http://www.southampton.ac.uk/natsci/find_course/msci_natural_sciences.page in the Year Handbooks, http://www.southampton.ac.uk/studentservices/academic-life/faculty-handbooks.page and are briefly summarised below.

The programme is offered as a full-time course and normally lasts for four years.

Study is divided into four parts for the MSci Natural Sciences - each part corresponding to one year of full- time study. The programme is delivered in a semester pattern, each semester having 12 weeks for teaching and learning and 2-3 weeks for examinations.

The programme is divided into individual study modules at each part. Each study module is accredited as being worth a certain number of credit points to you on successful completion. Modules are normally worth 7.5 ECTS (15 credit points), which is equivalent to 150 hours of study. Normally up to 60 hours comprises contact teaching (lectures, practicals, tutorials, etc.), and the remainder of the time is for your own independent study. Modules are generally assessed at the end of each semester, but some are assessed entirely by coursework throughout the duration of the module.

The table below details the number of ECTS you are expected to achieve at the end of each part (year).

		NATS* ECTS	Compulsory ECTS	Elective ECTS (including CIP modules)	Project	Placement
Year 1	Semester 1	7.5*	22.5	-		
	Semester 2	7.5*	15	7.5		
Year 2	Semester 1	7.5	15	7.5		
	Semester 2	7.5	15	7.5		
Year 3	Semester 1	7.5	-	15	15	
	Semester 2	7.5	-	15		
	summer	-	-	-		30
Year 4	Semester 1		-	-		
	Semester 2	7.5	-	22.5		

*NATS modules in year 1 are designated as core. Those in years 2-4 are compulsory.

More detailed information of the subject combinations and the modules taken in each year can be found in the Appendix below. Please note that core modules must be passed at a minimum of 40%. Other modules can use mark compensation (assuming the module mark is 25% or above) to achieve an overall progression with the exception of modules CHEM1034 and CHEM1032 which, if they are to be used a prerequisites for CHEM modules in year 2, 3 or 4, must be passed (at 40%) in all assessments (practical report and exam).

General Regulations for Progression, Determination and Classification of Results: Undergraduate and Integrated Masters Programmes are found here: http://www.calendar.soton.ac.uk/sectionIV/progression-regs.html

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. Costs that students registered for this programme typically also have to pay for are included in Appendix 2. In addition, as this programme is multi-disciplinary, all appropriate additional costs are explicit within Module Profiles attached to each Academic Unit web page via http://www.southampton.ac.uk/courses/undergraduate.page .

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 (Section IV – General Regulations).

Those specific to the Faculty and your programme are inSection IX – Academic Regulations. For progression on to the four-year programme, a minimum average part mark of 55% must be obtained at the end of Part 2.

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 Honours	at least 180	45
BSc Ordinary	at least 150	30
Diploma of Higher Education	at least 120	45
Certificate of HE	at least 60	45

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.
- 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
- Career Destinations, 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 (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:

The University has an outstanding track record of research, education and innovation in the sciences, engineering mathematics and biomedicine. This stems from a creative research environment that breaks down barriers between traditional disciplines and addresses issues and challenges of societal

importance. This multidisciplinary ethos is particularly evident in our research institutes and centres, which are housed in purpose-built accommodation, comprise teams of researchers from across the University and are equipped with state-of-the-at facilities. Our world-leading research institutes include:

- The National Oceanography Centre Southampton
- The Institute for Life Sciences
- The Southampton Nanofrabrication Centre
- The Optoelectronics Research Centre
- The Southampton Marine and Maritime Institute
- Institute for Web Science

As a Natural Sciences student you will benefit from this rich environment that supports creativity and research through interaction with world-leading researchers, research projects at the cutting edge of science and access to state-of-the art research facilities.
The ethos of the Southampton Natural Sciences degree programme is to allow students to study a combination of topics that reflect their developing interests in science as well as their employment aspirations. Thus flexibility is central to the course, and you will be actively involved in choosing your pathway through the sciences. We aim to provide a friendly and supportive environment for you to pursue your studies. The teaching staff for each module will help you with any difficulties you may have in following the syllabus. You will have a Personal Tutor who will ensure that your module choices will give you both depth and breadth of knowledge, advises you on matters directly concerned with your programme of study, monitors your progress and provides pastoral care. In addition you will have subject-specific advice from members of staff who belong to the Natural Sciences Programme Team

Staff aligned with the Natural Sciences programme have a track record of multidisciplinary research and are prepared to help Natural Sciences students with issues stemming from their choice of specialist modules. Such staff will also supervise the Natural Sciences projects and full-time placements.

As a Natural Sciences student you will be part of a small community with a strong sense of identity. This is fostered through an active Natural Sciences Student Society that organizes social events and an annual conference at which third and fourth year students present their project and placement work.

Associated with your programme you will be able to access

- A formal mentoring scheme which runs from the point of interview, through to your final year. The mentor team will provide individual advice on option choices in relation to your career expectations and will monitor your progress and acquisition of core knowledge and key skills.
- An induction programme at the start of the course, which will provide orientation, information on programme structure, modules, courses, library and computer facilities.
- A Programme handbook, module mini-guides and material on the web.
- Library and academic skills packages.
- Academic and pastoral support from members of staff, including your personal tutor; this will include scheduled as well as informal meetings at appropriate occasions during the academic year.
- Access to all administrative and academic materials of the academic units that are part of the Faculty of Natural and Environmental Sciences, including programme and individual module web sites and/or 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.

Support for Student with Additional Requirements

We will take a flexible and inclusive approach to enable those students with additional requirements to access the curriculum and achieve the intended learning outcomes of their programme. We will do this by working with you and the University's Enabling Services to assess your individual requirements.

Methods for evaluating the quality of teaching and learning

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, Faculty Programmes Committee OR providing comments to your student representative to feedback 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
- A national Research Assessment Exercise (our research activity contributes directly to the quality of your learning experience)
- Institutional Review by the Quality Assurance Agency

In addition the Natural Sciences programme has an external Academic Advisory board, composed of three distinguished and senior academics, who have experience of the application of science in multidisciplinary contexts. The role of this board is to review the programme content annually and suggest ways in which the student experience can be enhanced and its distinctiveness maintained.

The role of the Education and Quality Committee is to monitor and evaluate all aspects of learning and teaching at the undergraduate level. It considers the results of student feedback and takes appropriate action to remedy any shortcomings. It also considers the results of peer observation of teaching and the reports of External Examiners from comparator universities who review our assessment procedures, subject content and overall standards of assessment. The Education and Quality Committee reports to the Faculty Programmes Committee.

The Faculty Programmes Committee scrutinises degree programmes and their constituent modules and monitors the performance of its academic units. The University has a Quality, Standards & Accreditation Team that supports the quality of learning and teaching of all faculties. External checks are conducted periodically 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.

Criteria for admission

The University's Admissions Policy applies equally to all programmes of study. The following are the typical entry criteria to be used for selecting candidates for admission. The University's approved equivalencies for the requirements listed below will also be acceptable. The Admissions policy can be found at www.southampton.ac.uk/admissions-policy

Undergraduate programmes

Qualification	Grades	Subjects required	Subjects not accepted	EPQ Alternative offer (if applicable)	Contextual Alternative offer (if applicable)
GCE A level	A*AA	Chemistry, Biology, Physics and Maths (A minimum of AS Maths is required)			
GCSE	C or above	English and Maths			

Mature applicants
We will consider applications from mature students with none of the above qualifications, but with evidence of recent successful study. Contact the Admissions team: ugafnes@soton.ac.uk for more information

Recognition of Prior Learning (RPL)
The University has a **Recognition of Prior Learning Policy** Applications are considered on a case-by-case basis. Contact the Admissions team: ugafnes@soton.ac.uk for more information

English Language Proficiency

All programmes at the University of Southampton are taught and assessed in the medium of English (other than those in modern foreign languages). Therefore, all applicants must demonstrate they possess at least a minimum standard of English language proficiency. Our minimum standard entry requirements are an IELTS Band C, i.e.

Overall	Reading	Writing	Speaking	Listening
6.5	5.5	5.5	5.5	5.5

Information on all acceptable English Language Tests can be found on the University website: www.southampton.ac.uk/admissions-language

Career Opportunities

This integrated master of natural sciences degree will equip you for a wide range of careers in science and other professions. During your degree, you will have developed key transferable skills in practical and analytical subjects together with independent-learning, advanced problem-solving and critical thinking abilities which are valued by employers throughout the world.

We expect many of our graduates will continue in research. The MSci Natural Sciences is an ideal introduction to the rigours of PhD study and careers in academia.

External Examiners(s) for the programme

Name: Dr Andrew Shaw
Institution: University of Exeter

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 tutor in the first instance.

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 (or other appropriate guide) or online via SUSSED.

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 typically also have to pay for the items listed in the table below

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 http://www.calendar.soton.ac.uk/.

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 stationary 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 **optional** 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	Laboratory and Field Equipment and Materials:	All materials required for laboratory or field work are provided. Where necessary, suitable specialist safety equipment will be provided.
IT	Computer Discs or USB drives	Students are expected to provide their own portable data storage device.
	Software Licenses	All 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 and safety spectacles	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.
	Field course clothing	You will need to wear suitable clothing when attending field courses or OES run practicals on their boats, e.g. fleeces, waterproofs, walking boots. You can purchase these from any source.
Printing and Photocopying Costs		Coursework such as essays; projects; dissertations may be submitted on line. In the majority of cases, though, students will be asked to provide a printed copy. The University printing costs are currently:

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		A4 - 5p per side (black and white) or 25p per side (colour) A3 - 10p per side (black and white) or 50p per side (colour) Please Note: Paper sizes not recognised by the printing devices will prompt you to select the size and then charge a minimum of 50p per black and white copy and a maximum of £1 per colour copy. You can pay for your printing by using the money loaders or by using print copy payment service by going to www.printcopypayments.soton.ac.uk Please remember that we are unable to refund any credit that has not been used by the end of your course, so please consider this when topping up your printing/copy account Students entering Year 1 in 2015/16 will be given a printing allowance of £15 per semester each year The University Print Centre also offers a printing and copying service as well as a dissertation/binding service. Current printing and copying costs can be found here. They also provide a large format printing service, e.g. Academic posters. Details of current costs can be found here.
Fieldwork: Logistical costs	Accommodation: Insurance (travel/health): Travel Costs: Immunisation/vaccination costs: Other:	For compulsory residential field courses 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. You are usually expected to cover the costs of food and drink, although some courses may include meals. For optional field courses, you may be asked to make a contribution to the travel and/or accommodation costs. Undergraduates are automatically covered under the University's travel insurance whilst on organised and supervised field courses. Participants should satisfy themselves that the cover provided is adequate for their needs. 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. There are also opportunities to undertake field courses with another organisation, e.g. Operation Wallacea – for example see here. 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 programmes details of the relevant academic unit.

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
Placements (including Industrial Year out)		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.
Parking Costs		There may be a requirement to undertake work at Southampton General Hospital (SGH), for example during a final year research project. Students may need to cover costs for transport to travel to SGH or for car parking.
Other	**Travel Costs**	Students who opt to undertake a module delivered at Marwell Wildlife will be responsible for their own travel expenses.