Programme Specification

Marine Geology and Geophysics (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.

<table>
<thead>
<tr>
<th>Awarding Institution</th>
<th>University of Southampton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Institution</td>
<td>University of Southampton</td>
</tr>
<tr>
<td>Mode of Study</td>
<td>Full-time</td>
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<tr>
<td>Duration in years</td>
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<tr>
<td>Accreditation details</td>
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<tr>
<td>Final award</td>
<td>Master of Research (MRes)</td>
</tr>
<tr>
<td>Name of Award</td>
<td>Marine Geology and Geophysics</td>
</tr>
<tr>
<td>Pathways: Coastal, Exploration, Geodynamics and Palaeo</td>
<td></td>
</tr>
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<td>Interim Exit awards</td>
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<td>Postgraduate Diploma in Higher Education</td>
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<td>UCAS code</td>
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<td>Programme Code</td>
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<tr>
<td>QAA Subject Benchmark or other external reference</td>
<td>Earth Sciences, Environmental Sciences And Environmental Studies 2007, Master’s Degree Characteristics 2016</td>
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<tr>
<td>Programme Lead</td>
<td>Nicholas Harmon (nh1v08)</td>
</tr>
</tbody>
</table>

Programme Overview

Brief outline of the programme

As an MRes student, you will spend around two thirds of your year on your research project and the rest of your time taking taught modules. Depending on your background knowledge, these will be a mix of core and optional subjects. You will be able to develop specific knowledge and skills through your selection of modules and choice of subject for your substantial research project.

The programme is taught by staff from across NOCS who draw on their topical cutting edge research to create a challenging and stimulating degree programme. You will also be encouraged to attend our research seminars, some delivered by leading visiting scientists.

Your contact hours will vary depending on your module/option choices. Full information about contact hours is provided in individual module profiles.

Learning and teaching

To assist the development of your knowledge and understanding of the marine geosciences/ocean sciences we use a wide range of teaching methods. You will develop core knowledge and understanding via compulsory modules and specialised option module lectures, tutor-led and student-led tutorials, student-led seminars and presentations, laboratory and practical classes, case studies, fieldwork, boat-work, guided independent study, group study and your own research. A wide range of support is available for those students who have further or specific learning and teaching needs.
Assessment
To test your knowledge and understanding of material presented in the lectures and associated practicals, you will be assessed via a combination of written examinations, oral presentations, essays, poster presentations, laboratory experiment write-ups, and fieldwork/boat-work reports. In addition, during Semester 1, you will complete a research proposal based on the topic selected for your individual research project, which will be assessed by the project tutor. Material in Semester 2 will be assessed only by coursework (essays, literature reviews, practical reports) and through short tests. You will also present seminars during Semester 2 and these will be assessed by tutors.

All students carry out a major individual research project, culminating in a dissertation manuscript (prepared as for journal submission) and a 20-minute oral presentation that are assessed by both the project supervisor and an internal examiner. Additional support can be provided for those students who have further or specific needs.

Summative assessment contributes to your marks and usually involves a combination of unseen written examinations (at the end of the study module) and coursework (which includes essays, project reports, and computing practicals, etc.). Assessment of your knowledge and understanding is undertaken primarily via these summative assessment methods; in addition you will receive feedback on all formally assessed work.

Special Features of the programme

The programme is taught by staff from across NOCS who draw on their cutting edge research to create a challenging and stimulating degree programme. You will also be encouraged to attend our research seminars, some delivered by leading visiting scientists.

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 Master of Research is a minimum of one and maximum of five year programme comprising mainly of research, but also containing taught modules.

The MRes in Marine Geology and Geophysics is designed for graduates in the physical or environmental sciences, mathematics or engineering and offers you the chance to broaden the science background of your undergraduate degree, while allowing advanced level specialisation in marine geology and geophysics.

Ocean and Earth Science (OES) is housed in the prestigious National Oceanography Centre, Southampton (NOCS). A joint venture between the University of Southampton and the Natural Environment Research Council (NERC), the Centre is one of the world’s largest institutions devoted to research, teaching and technology development in ocean and Earth science.

The programme is taught by staff from the OES and the NOCS. Cutting edge research carried out by academic staff provides direct and enthusiastic input into a challenging and stimulating teaching programme. There are unique opportunities for you to undertake research projects with OES and NERC scientists.

Ocean and Earth Science is strongly committed to providing the very best learning experience to all our students in a friendly and stimulating environment. We are known nationally and internationally for our excellence in teaching, and are continually improving the scope and delivery of our activities.

By the end of your MRes programme you will have extended your subject-specific and more generic skills beyond the level of your undergraduate degree. This will be partially the result of further instruction during the programme, but also will be a direct result of the application and practice of your skills during your research project and the practical elements of your studies. Additionally you will have developed research skills of sufficient depth to produce work which is publishable in refereed scientific literature.
The specific aims of our MRes programmes are to provide you with:

- In-depth training through advanced coursework and an individual research project, which may be multi-disciplinary or directed towards a specific disciplinary branch;
- A sound and suitable qualification that would enable you to proceed to a more specialist higher degree at the PhD level;
- A training in practical research methods and application of advanced techniques both through fieldwork/boatwork and laboratory work;
- A high-quality and intellectually stimulating experience of learning in a supportive environment.
- An extensive and in-depth knowledge of marine geology and geophysics and their relationship to other disciplines within ocean and Earth science;
- A sound theoretical knowledge and understanding of marine geological and geophysical processes.
- Vocational training for a professional career in industries related to marine geology and geophysics by undertaking a number of specialised applied options and gaining practical experience through project work;
- Critical appraisal and analytical skills in the field of marine geology and geophysics and the ability to communicate results to non-specialists;
- Business awareness, communication and presentation skills, developed through group fieldwork, seminar presentations and production of a literature review and project dissertation;
- An opportunity to develop your skills in scientific computing and critical analysis of scientific literature.

A Master of Research programme differs from a conventional MSc programme in the balance between teaching and research. As an MRes student you will spend more time on the research project and correspondingly less time will be devoted to formal teaching.

**Programme Learning Outcomes**

**Knowledge and Understanding**

On successful completion of this programme you will have knowledge and understanding of:

A1. The value and need for multi-disciplinary approaches in advancing knowledge.
A2. A wide selection of topics currently at the frontiers of research and many of the specialist techniques used to investigate them.
A3. A range of independent research methods.
A4. The scientific principles underlying the study of the ocean floor.
A5. The geological processes that shape the ocean floor at different temporal and spatial scales.
A6. The theory, practice, acquisition, analysis and interpretation of marine geophysical and geological data across a range of applications and scales.
A7. The terminology, nomenclature and core concepts used in describing and understanding the ocean floor and underlying structures.
A8. The applicability of marine geoscience to the world of work.

**Subject Specific Intellectual and Research Skills**

On successful completion of this programme you will be able to:

B1. Recognise and use subject specific theories, paradigms, concepts and principles in the context of research;
B2. Critically analyse, synthesise, interpret and summarise complex scientific information.
B3. Demonstrate familiarity with the techniques of collecting, recording and analysing data in the field and laboratory, using state-of-the-art techniques and equipment;
B4. Read, use and reference the work of others in an appropriate manner;
B5. Undertake field and laboratory investigations in a responsible and safe manner, paying due attention to risk assessment, rights of access, relevant health and safety regulations, and sensitivity to the impact of investigations on the environment and stakeholders.
B6. Cycling of matter and the flows of energy within the solid Earth and between the solid Earth and the oceans.
B7. The principles of geophysical exploration from a basic level to current practice in industrial and research applications
B8. The geological evolution of the ocean basins, and the methods currently employed to investigate the superficial and deep structural features of the sea bed.
B9. Physics and mathematics that underpin our understanding of Earth structure, materials and processes
B10. The structure and composition of the solid Earth and its interface with the oceans.
B11. Techniques of surveying and measurement, both in the field and laboratory, and using qualitative, quantitative and instrumental techniques.

Transferable and Generic Skills

On successful completion of this programme you will be able to:

C1. Synthesise, apply and develop further the computing, statistical and mathematical skills that you brought to the MRes programme from your undergraduate programme.
C2. Appreciate statistical issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and in the laboratory.
C3. Prepare, process and present data, using appropriate qualitative and quantitative techniques and computer software packages and solving numerical problems using computer and non-computer-based techniques.
C4. Develop where appropriate, advanced skills in computer programming.
C5. Collect and integrate several lines of evidence to formulate and test hypotheses.
C6. Apply your knowledge and understanding to address familiar and unfamiliar problems.
C7. Design, implement and report on scientific research projects, including a major research project at the forefront of marine science/marine geoscience knowledge.
C8. Critically use the Internet as a means of communication and data dissemination, and as a source of information.
C9. Identify individual and collective goals and responsibilities and performing in an appropriate manner.
C10. Recognise and respect the views of other team members.
C11. Evaluate performance as an individual and as a team member.
C12. Understand the roles of individuals in teams and how individuals learn in team groups.
C13. Continue to develop the skills necessary for self-managed and life-long learning (such as working independently and within groups, time management and organisation).
C14. Identify and work towards targets for personal, academic and career development.
C15. Develop an adaptable and flexible approach to study and work.

Programme Structure

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.

Coastal Pathway

Part I

Typical course content

The programme involves teaching activities occupying about one third of the programme and a research project occupying the remaining two thirds of the programme. Semester 1 modules run from October to January. Semester 2 modules are taught in a 2-3 week intensive format between February and May.

The duration of the full-time programme is one year. Students undertake the taught component between October and May. The research component is undertaken throughout the whole year and normally completed with the submission of your corrected dissertation manuscript by the end of September.

Each taught module on this programme is normally worth between 3.75 and 7.5 ECTS which equates to 75–150 hours of study. (ECTS = European Credit Transfer Scheme). For example a 7.5 ECTS module would normally comprise up to 60 hours contact teaching (lectures, practicals, etc.) with the remainder of the time for your own independent study.
You will also be encouraged to attend research seminars, which at the NOCS are run at a variety of different levels. In particular, you will be encouraged to attend key seminars from leading visiting scientists.

The research project will be related to the topic selected for the Research Proposal. A dissertation based on this is submitted at the end of the year for the degree of Master of Research.

Graduates will find the extra support offered by the MRes programme an excellent way to prepare for a subsequent three-year research project. Students should note that the research undertaken for the MRes Project would be independent of research for a PhD.

Programme details

Details of the modules can be downloaded from the Academic Unit website www.southampton.ac.uk/soes

All students must take two compulsory modules: a basic introductory module that covers the disciplines of marine geology and geophysics (3.75 ECTS) and a module that covers key literature on a variety of key contemporary topics in ocean and earth science (7.5 ECTS). Students will normally follow a specific pathway. The table below indicate which modules should be taken for each pathway.

NB University of Southampton Graduates should not take any module already taken as an undergraduate – advice from tutors should be sought.

Please note that where a list of options has been given, this is an indicative list and we cannot guarantee to offer every option each year.

You will be registered for the MRes Research Project module (60 ECTS). In addition to enabling you to complete a substantial piece of independent research, this module will provide you with training in research methodology including assessment of some elements. The module includes training in scientific computing, team building exercises, science communication workshops, communication skills, safety training and a professional skills workshop.

You will also prepare a detailed Research Proposal to prepare for your proposed research project, in conjunction with the various parties involved in your project. The Research Proposal is expected to evaluate any published literature about your chosen topic, set out the project aims and give an estimate of the resources required.

It is anticipated that the quality of the research and its novelty will lead to results that are suitable for publication in the peer-reviewed scientific literature.

**Part I Compulsory**

<table>
<thead>
<tr>
<th>Code</th>
<th>Module Title</th>
<th>ECTS</th>
<th>Type</th>
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<tbody>
<tr>
<td>SOES3014</td>
<td>Coastal Sediment Dynamics</td>
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<td>SOES6001</td>
<td>Contemporary Topics in Geology and Geophysics</td>
<td>7.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6016</td>
<td>Introduction to Marine Geology</td>
<td>3.75</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6014</td>
<td>Introduction to Physical Oceanography</td>
<td>3.75</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6042</td>
<td>MRes Research Project</td>
<td>60</td>
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</table>

**Part I Optional**

This is an indicative list of options. We cannot guarantee to offer every option each year.

<table>
<thead>
<tr>
<th>Code</th>
<th>Module Title</th>
<th>ECTS</th>
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<td>SOES6011</td>
<td>Modelling Coastal Processes</td>
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<td>Optional</td>
</tr>
<tr>
<td>SOES6024</td>
<td>Seafloor Exploration and Surveying 2</td>
<td>7.5</td>
<td>Optional</td>
</tr>
</tbody>
</table>
The programme structure table is below:

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

**Exploration Pathway**

**Part I**

**Typical course content**

The programme involves teaching activities occupying about one third of the programme and a research project occupying the remaining two thirds of the programme. Semester 1 modules run from October to January. Semester 2 modules are taught in a 2-3 week intensive format between February and May.

The duration of the full-time programme is one year. Students undertake the taught component between October and May. The research component is undertaken throughout the whole year and normally completed with the submission of your corrected dissertation manuscript by the end of September.

Each taught module on this programme is normally worth between 3.75 and 7.5 ECTS which equates to 75–150 hours of study. (ECTS = European Credit Transfer Scheme). For example a 7.5 ECTS module would normally comprise up to 60 hours contact teaching (lectures, practicals, etc.) with the remainder of the time for your own independent study.

You will also be encouraged to attend research seminars, which at the NOCS are run at a variety of different levels. In particular, you will be encouraged to attend key seminars from leading visiting scientists.

The research project will be related to the topic selected for the Research Proposal. A dissertation based on this is submitted at the end of the year for the degree of Master of Research.

Graduates will find the extra support offered by the MRes programme an excellent way to prepare for a subsequent three-year research project. Students should note that the research undertaken for the MRes Project would be independent of research for a PhD.

**Programme details**

Details of the modules can be downloaded from the Academic Unit website www.southampton.ac.uk/soes

All students must take two compulsory modules: a basic introductory module that covers the disciplines of marine geology and geophysics (3.75 ECTS) and a module that covers key literature on a variety of key contemporary topics in ocean and earth science (7.5 ECTS). Students will normally follow a specific pathway. The table below indicate which modules should be taken for each pathway.

NB University of Southampton Graduates should not take any module already taken as an undergraduate – advice from tutors should be sought.

Please note that where a list of options has been given, this is an indicative list and we cannot guarantee to offer every option each year.

You will be registered for the MRes Research Project module (60 ECTS). In addition to enabling you to complete a substantial piece of independent research, this module will provide you with training in research methodology including assessment of some elements. The module includes training in scientific computing, team building exercises, science communication workshops, communication skills, safety training and a professional skills workshop.

You will also prepare a detailed Research Proposal to prepare for your proposed research project, in conjunction with the various parties involved in your project. The Research Proposal is expected to evaluate any published literature about your chosen topic, set out the project aims and give an estimate of the resources required.

It is anticipated that the quality of the research and its novelty will lead to results that are suitable for publication in the peer-reviewed scientific literature.
### Part I Compulsory

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<tr>
<th>Code</th>
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<td>7.5</td>
<td>Compulsory</td>
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<td>SOES6016</td>
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<td>SOES6042</td>
<td>MRes Research Project</td>
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<td>SOES6024</td>
<td>Seafloor Exploration and Surveying 2</td>
<td>7.5</td>
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### Part I Optional

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<td>SOES6006</td>
<td>Climate Dynamics</td>
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<td>Optional</td>
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<td>SOES3014</td>
<td>Coastal Sediment Dynamics</td>
<td>7.5</td>
<td>Optional</td>
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<td>SOES6025</td>
<td>Computational Data Analysis for Geophysicists and Ocean Scientists</td>
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<td>SOES6008</td>
<td>Deep Sea Ecology</td>
<td>7.5</td>
<td>Optional</td>
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<td>SOES6021</td>
<td>Ecological Modelling</td>
<td>7.5</td>
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<td>SOES6023</td>
<td>Environmental Radioactivity and Radiochemistry</td>
<td>7.5</td>
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<td>SOES6047</td>
<td>Global Climate Cycles</td>
<td>7.5</td>
<td>Optional</td>
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<td>SOES6073</td>
<td>Global Ocean Carbon Cycle, Ocean Acidification and Climate</td>
<td>7.5</td>
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<td>SOES6013</td>
<td>Introduction to Biological Oceanography</td>
<td>3.75</td>
<td>Optional</td>
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<td>SOES6015</td>
<td>Introduction to Chemical Oceanography</td>
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<td>SOES6016</td>
<td>Introduction to Marine Geology</td>
<td>3.75</td>
<td>Optional</td>
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<td>SOES6014</td>
<td>Introduction to Physical Oceanography</td>
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<td>Optional</td>
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<tr>
<td>SOES6005</td>
<td>Large Scale Ocean Processes and Climate</td>
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<td>Optional</td>
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<td>SOES6011</td>
<td>Modelling Coastal Processes</td>
<td>7.5</td>
<td>Optional</td>
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<tr>
<td>SOES6051</td>
<td>Reproduction in Marine Invertebrates</td>
<td>7.5</td>
<td>Optional</td>
</tr>
<tr>
<td>SOES6020</td>
<td>Structure and Dynamics of Marine Communities</td>
<td>7.5</td>
<td>Optional</td>
</tr>
<tr>
<td>SOES6009</td>
<td>Zooplankton Ecology and Processes</td>
<td>7.5</td>
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</tr>
</tbody>
</table>
The programme structure table is below:

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

Geodynamics Pathway

Part I
Typical course content

The programme involves teaching activities occupying about one third of the programme and a research project occupying the remaining two thirds of the programme. Semester 1 modules run from October to January. Semester 2 modules are taught in a 2-3 week intensive format between February and May.

The duration of the full-time programme is one year. Students undertake the taught component between October and May. The research component is undertaken throughout the whole year and normally completed with the submission of your corrected dissertation manuscript by the end of September.

Each taught module on this programme is normally worth between 3.75 and 7.5 ECTS which equates to 75–150 hours of study. (ECTS = European Credit Transfer Scheme). For example a 7.5 ECTS module would normally comprise up to 60 hours contact teaching (lectures, practicals, etc.) with the remainder of the time for your own independent study.

You will also be encouraged to attend research seminars, which at the NOCS are run at a variety of different levels. In particular, you will be encouraged to attend key seminars from leading visiting scientists.

The research project will be related to the topic selected for the Research Proposal. A dissertation based on this is submitted at the end of the year for the degree of Master of Research.

Graduates will find the extra support offered by the MRes programme an excellent way to prepare for a subsequent three-year research project. Students should note that the research undertaken for the MRes Project would be independent of research for a PhD.

Programme details

Details of the modules can be downloaded from the Academic Unit website www.southampton.ac.uk/soes

All students must take two compulsory modules: a basic introductory module that covers the disciplines of marine geology and geophysics (3.75 ECTS) and a module that covers key literature on a variety of key contemporary topics in ocean and earth science (7.5 ECTS). Students will normally follow a specific pathway. The table below indicate which modules should be taken for each pathway.

NB University of Southampton Graduates should not take any module already taken as an undergraduate – advice from tutors should be sought.

Please note that where a list of options has been given, this is an indicative list and we cannot guarantee to offer every option each year.

You will be registered for the MRes Research Project module (60 ECTS). In addition to enabling you to complete a substantial piece of independent research, this module will provide you with training in research methodology including assessment of some elements. The module includes training in scientific computing, team building exercises, science communication workshops, communication skills, safety training and a professional skills workshop.

You will also prepare a detailed Research Proposal to prepare for your proposed research project, in conjunction with the various parties involved in your project. The Research Proposal is expected to evaluate any published literature about your chosen topic, set out the project aims and give an estimate of the resources required.

It is anticipated that the quality of the research and its novelty will lead to results that are suitable for publication in the peer-reviewed scientific literature.
Part I Compulsory

<table>
<thead>
<tr>
<th>Code</th>
<th>Module Title</th>
<th>ECTS</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOES6025</td>
<td>Computational Data Analysis for Geophysicists and Ocean Scientists</td>
<td>7.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6001</td>
<td>Contemporary Topics in Geology and Geophysics</td>
<td>7.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6037</td>
<td>Geodynamics and Solid Earth Geophysics</td>
<td>7.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6016</td>
<td>Introduction to Marine Geology</td>
<td>3.75</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6042</td>
<td>MRes Research Project</td>
<td>60</td>
<td>Compulsory</td>
</tr>
</tbody>
</table>

Part I Optional

This is an indicative list of options. We cannot guarantee to offer every option each year.

<table>
<thead>
<tr>
<th>Code</th>
<th>Module Title</th>
<th>ECTS</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOES6015</td>
<td>Introduction to Chemical Oceanography</td>
<td>3.75</td>
<td>Optional</td>
</tr>
<tr>
<td>SOES6014</td>
<td>Introduction to Physical Oceanography</td>
<td>3.75</td>
<td>Optional</td>
</tr>
</tbody>
</table>

The programme structure table is below:

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

**Palaeoceanography Pathway**

Part I

Typical course content

The programme involves teaching activities occupying about one third of the programme and a research project occupying the remaining two thirds of the programme. Semester 1 modules run from October to January. Semester 2 modules are taught in a 2-3 week intensive format between February and May.

The duration of the full-time programme is one year. Students undertake the taught component between October and May. The research component is undertaken throughout the whole year and normally completed with the submission of your corrected dissertation manuscript by the end of September.

Each taught module on this programme is normally worth between 3.75 and 7.5 ECTS which equates to 75–150 hours of study. (ECTS = European Credit Transfer Scheme). For example a 7.5 ECTS module would normally comprise up to 60 hours contact teaching (lectures, practicals, etc.) with the remainder of the time for your own independent study.

You will also be encouraged to attend research seminars, which at the NOCS are run at a variety of different levels. In particular, you will be encouraged to attend key seminars from leading visiting scientists.

The research project will be related to the topic selected for the Research Proposal. A dissertation based on this is submitted at the end of the year for the degree of Master of Research.

Graduates will find the extra support offered by the MRes programme an excellent way to prepare for a subsequent three-year research project. Students should note that the research undertaken for the MRes Project would be independent of research for a PhD.
Programme details

Details of the modules can be downloaded from the Academic Unit website www.southampton.ac.uk/soes

All students must take two compulsory modules: a basic introductory module that covers the disciplines of marine geology and geophysics (3.75 ECTS) and a module that covers key literature on a variety of key contemporary topics in ocean and earth science (7.5 ECTS). Students will normally follow a specific pathway. The table below indicate which modules should be taken for each pathway.

NB University of Southampton Graduates should not take any module already taken as an undergraduate – advice from tutors should be sought.

Please note that where a list of options has been given, this is an indicative list and we cannot guarantee to offer every option each year.

You will be registered for the MRes Research Project module (60 ECTS). In addition to enabling you to complete a substantial piece of independent research, this module will provide you with training in research methodology including assessment of some elements. The module includes training in scientific computing, team building exercises, science communication workshops, communication skills, safety training and a professional skills workshop.

You will also prepare a detailed Research Proposal to prepare for your proposed research project, in conjunction with the various parties involved in your project. The Research Proposal is expected to evaluate any published literature about your chosen topic, set out the project aims and give an estimate of the resources required.

It is anticipated that the quality of the research and its novelty will lead to results that are suitable for publication in the peer-reviewed scientific literature.

Part I Compulsory

<table>
<thead>
<tr>
<th>Code</th>
<th>Module Title</th>
<th>ECTS</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOES6001</td>
<td>Contemporary Topics in Geology and Geophysics</td>
<td>7.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6047</td>
<td>Global Climate Cycles</td>
<td>7.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6015</td>
<td>Introduction to Chemical Oceanography</td>
<td>3.75</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6016</td>
<td>Introduction to Marine Geology</td>
<td>3.75</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6022</td>
<td>Microfossils, Environment and Time</td>
<td>7.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>SOES6042</td>
<td>MRes Research Project</td>
<td>60</td>
<td>Compulsory</td>
</tr>
</tbody>
</table>

Progression Requirements
The programme will follow the University’s regulations for Progression, Determination and Classification of Results: Undergraduate and Integrated Masters Programmes or the University’s regulations for Progression, Determination and Classification of Results: Standalone Masters Programmes as set out in the General Academic Regulations in the University Calendar: http://www.calendar.soton.ac.uk/sectionIV/sectIV-index.html
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
- Career 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:

- Programme and module guides/information. Hard copies are available but are mainly published on the web: http://www.southampton.ac.uk/oes/postgraduate/index.page? and www.blackboard.soton.ac.uk
- A number of well-resourced lecture/meeting rooms and a suite of modern, first class, specialist laboratories and analysis facilities.
- A dedicated masters room with computer and high speed Internet access.
- Three additional computer clusters which are available at the NOCS for your use shared with undergraduate students. Additional computer clusters are available for your use on the other University campuses.
- Training on Ocean and Earth Science's research launch, RV Callista, which is fully equipped for boat-work practicals and project work in the local estuary and coastal waters and in our shore-side laboratory and aquarium facilities.
- Equipment to support your field work, including laptop computers, GPS, specialised shipboard data acquisition systems deployed from the 19m research catamaran RV Callista.
- A research-led environment, which provides a high quality learning environment for students.
- A dedicated Student Office whose role is to support both staff and students in the administration of postgraduate teaching.
- A personal supervisor system which aims to provide personalised pastoral and academic care for all
students. You will be allocated a member of the academic staff as your personal supervisor on arrival at University, and he/she will be charged with your guidance throughout your postgraduate career.

- Access via email which is freely available at all times and personal contact with all teaching staff.

**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

Further details on the University's quality assurance processes are given in the *Quality handbook*.

**Career Opportunities**

Career destinations and advice can be found at: http://www.soton.ac.uk/careers/ and http://www.southampton.ac.uk/postgraduate/careerprospects/

Students graduating from our postgraduate courses are well qualified to enter a broad range of career paths. Our degrees are highly regarded by major employers in the marine and geological sectors. The vocational elements of our courses mean that a degree is your passport to discipline-related fields within government agencies, conservation and environmental agencies, coastal management and geophysical survey companies, meteorology, to the major oil and mining companies, geological service companies, local authorities, museums, civil engineering and the construction industry and water boards, through to universities and allied research institutes.

We pride ourselves in the quality of the graduate students that we produce and given our national standing, it is our experience that all of our well qualified graduates are able to progress into a career of direct relevance to their training, should they so wish.

**External Examiner(s) for the programme**

Name: Dr Mark Hartl - University of Edinburgh

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.
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:

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:

### Additional Costs

<table>
<thead>
<tr>
<th>Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Licenses</td>
<td>Will be provided by the University where appropriate</td>
</tr>
<tr>
<td>Hardware</td>
<td>It is advisable that students provide their own laptop or personal computer, although shared facilities are available across the University campus.</td>
</tr>
<tr>
<td>Computer discs or USB drives</td>
<td>Students are expected to provide their own data storage device</td>
</tr>
<tr>
<td>Stationery</td>
<td>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.</td>
</tr>
<tr>
<td>Textbooks</td>
<td>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.</td>
</tr>
<tr>
<td>Laboratory Equipment and Materials</td>
<td>Laboratory equipment and consumables will be provided where appropriate</td>
</tr>
<tr>
<td>Approved Calculators</td>
<td>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 FX85GTX Casio FX85GT Casio FX570 – all models Plus the older approved FX83ES GT and Plus models These may be purchased from any source and no longer need to carry the University logo.</td>
</tr>
<tr>
<td>Fieldwork: logistical costs</td>
<td>For compulsory residential fieldcourses accommodation and travel are normally provided. You are usually expected to cover the costs of food and drink, although some courses may include meals. For optional fieldcourses, you may be asked to make a contribution to the travel and/or accommodation costs. Additionally, if travelling abroad you may incur costs for travel and health insurance; visa costs; vaccinations/immunisation. Specific details on what additional costs there will be are detailed in the individual module profiles which can be found under the modules tab of the programmes details of the relevant academic unit. In addition, some modules may offer a “one-day” fieldcourse. Normally transport to the location is provided, but you will be expected to cover your food and drink costs for that day.</td>
</tr>
<tr>
<td>Field Equipment and Materials</td>
<td>A number of essential items will be provided to you if they are required on your programme e.g.: field notebook(s); compass-clinometer; geological hammer; steel tape measure; map case; pocket lens (x 10); safety helmet; safety goggles; bottle of dilute hydrochloric acid. If items provided are lost replacements will need to be purchased. 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.</td>
</tr>
<tr>
<td>Field course clothing</td>
<td>You will need to wear suitable clothing when attending fieldcourses, e.g. waterproofs, walking boots. You can purchase these from any source.</td>
</tr>
<tr>
<td>Printing and Photocopying Costs</td>
<td>Where possible, coursework such as essays; projects; dissertations is likely to be submitted on line. However, there are some items where it is not possible to submit on line and students will be asked to provide a printed copy. The University printing costs for taught students are currently:</td>
</tr>
<tr>
<td>Size</td>
<td>Cost per side (black and white) or colour</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>A4</td>
<td>4p per side</td>
</tr>
<tr>
<td>A4</td>
<td>7p double sided</td>
</tr>
<tr>
<td>A3</td>
<td>8p per side</td>
</tr>
<tr>
<td>A3</td>
<td>14p double sided</td>
</tr>
</tbody>
</table>

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.

You will be given a printing allowance towards the costs of printing lecture handouts and/or practical scripts.

The University Print Centre also offer 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.

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.