

# **University of Plymouth**

Faculty of Science and Engineering

School of Geography, Earth and Environmental Sciences

## **Programme Specification**

BSc (Honours) Geology with Ocean Science (5367)

September 2019

## 1. BSc (Honours) Geology with Ocean Science

**Final award title:** BSc (Honours) Geology with Ocean Science

**Level 4 Intermediate award title(s):** Certificate of Higher Education

**Level 5 Intermediate award title(s):** Diploma of Higher Education

**UCAS code:** F6F7

**JACS code:** F6F7

**2. Awarding Institution:** University of Plymouth

**Teaching institution(s):** University of Plymouth

**3. Accrediting body:** The Geological Society

Summary of specific conditions/regulations:

The aims of the Geological Society accreditation scheme are:

- to promote geoscience as an important area of professional education and training with appropriate and well maintained internal standards
- to replace the current system of assessing individual academic qualifications by a formal and rigorous system of accrediting geoscience degree programmes that satisfy the academic requirements of Fellowship and Chartered Geologist status
- thus to guarantee to potential students that a degree in an accredited programme will normally qualify the holder for admission to Fellowship of the Society and for the award of Chartered Geologist status after a specified period of professional development and relevant experience.
- to provide the Society with an improved means of assessing and monitoring the content and quality of UK geoscience degree programmes.
- to contribute to the development of European-wide professional standards in geoscience and to the free movement of Chartered Geologists within the European Union (EU).

Further information on the accreditation scheme, including the requirements for accreditation can be found at: <https://www.geolsoc.org.uk/accreditation>

Date of re-accreditation: April 2018 - valid for 6 years.

#### 4. Distinctive Features of the Programme and the Student Experience

**The key features of the BSc (Hons) Geology with Ocean Science programme at Plymouth are:**

- **Content:** This programme, taught jointly with Marine Science staff from the Marine subject area of the School of Biological and Marine Sciences (SoBMS) is a combined course which allows students to explore aspects of Geology alongside Ocean Science enabling students to develop depth of understanding in Earth Sciences whilst gaining insight into the interplays and connections that exist with the marine realm. The Ocean Science component focuses primarily upon physical oceanography, including ocean circulation, shelf sea oceanography, tides, waves and coastal processes.
- **Discipline coverage and choice:**  
A coherent and progressive curriculum that integrates traditional and emerging subject areas in Geology and Ocean Science. Students are able to select specialisms within the subject whilst maintaining academic breadth.
- **Fieldwork, experiential learning and additional opportunities:**  
A comprehensive, progressive and innovative fieldwork training programme, with extensive laboratory work and opportunities to practise Geology and Ocean Science overseas or work on an industrial placement project.
- **Student support:**  
Approachable, accessible and committed Geology and Marine staff, who provide academic guidance and student support via a comprehensive personal tutoring system, discussion in practicals, fieldwork and one-to-one advice on undergraduate dissertations. In addition, Stage 2 students provide support, under staff supervision, to Stage 1 students as part of a Peer Assisted Learning (PAL) scheme.
- **Personal and professional development:**  
Personal and professional skills development and careers education, to enhance employability and promote lifelong learning, are emphasised throughout the curriculum, specifically in a final year professional skills module, the regular use of industry-standard software, industry-relevant examples and guest speakers, and the opportunity for a professional placement.
- **Learning environment:**  
Learning and teaching enriched by:
  - the internationally-recognised research and industry-related consultancy of teaching staff.

- purpose-built, well-equipped, modern and accessible laboratories and excellent field locations in the local area.
- positive engagement with the institution's hallmark of innovation in teaching and learning.

- **External professional recognition of programmes:**

The BSc (Hons) Geology with Ocean Science programme is accredited by the Geological Society of London. (see section 3 of this document). The accreditation recognises that teaching meets a professional benchmark and is of the highest quality through approval by an independent body of academics and industrialists. Graduates of accredited degrees partially fulfil the requirements for Chartered Geologist status.

## **5. Relevant QAA Subject Benchmark Group(s)**

The BSc (Hons) Geology with Ocean Science programme and its content has been developed around the 2014 Earth Sciences, Environmental Sciences and Environmental Studies QAA subject benchmark statements. A copy of this document can be found at <http://www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code/subject-benchmark-statements>. These benchmark statements are referred to throughout the intended learning outcomes for this programme.

## 6. Programme Structure

Below are diagrams outlining the structure of the Geology with Ocean Science degree programme which will come fully into effect at the start of the **2017/18 academic year**. Before this date there are transitional arrangements with respect to the Ocean Science modules the students will do at each stage. Details of these transitional arrangements are outlined in section 12 of this document. Details relating to the content of each module can be found in the PUMR's that accompany this document.

### 6.1. Stage 1 / Level 4

<b>Semester 1</b>	<b>\$GEOL1001: The Dynamic Earth 20 credits</b>		
		<b>GEOL1002: Earth Materials 20 credits</b>	<b>Ocean Science module OS102: Phys &amp; Chem Processes of the Ocean 20 credits</b>
<b>Semester 2</b>	<b>GEOL1004: Palaeontology and Stratigraphy 20 credits</b>	<b>Ocean Science module OS109 Introduction to Biodiversity and Marine Ecosystems</b>	<b>\$GEOL1006 Fieldwork and Key Skills 20 credits</b>

**\$Tutorials.** Modules that include the Stage 1 timetabled tutorial provision for all Earth Science degree programmes.

## 6.2. Stage 2 / Level 5

<b>Semester 1</b>	<b>\$GEOL2001: Sedimentology and Palaeontology 20 credits</b>	<b>Ocean Science module OS201: Global Ocean Processes 20 credits</b>	<b>GEOL2003: Geospatial Techniques 20 credits</b>
<b>Semester 2</b>	<b>\$GEOL2004: Stratigraphy and Earth History 20 credits</b>	<b>Ocean Science module OS204: Waves, Tides &amp; Coastal Dynamics 20 credits</b>	<b>\$GEOL 2006 Geological Fieldwork 20 credits</b>

**\$ Tutorials.** Modules that include the Stage 2 timetabled tutorial provision for all Earth Science degree programmes.

**NOTE:** Students wishing to undertake an optional placement year in Stage 3 will normally need to complete the Stage 2, Semester 1 (zero credit) module **APIE217: Preparation for a Year Long Work Placement in Earth Sciences**. We recognise the value of placement learning for students in fulfilling professional imperatives as well as offering the opportunities to enhance students' future employability.

## 6.3. Stage 3 / No level

<b>Semester 1</b>	<b>**APIE316: Placement in Earth Sciences</b>
<b>Semester 2</b>	

**\*\*** Students who pass the placement year APIE316 they will receive a Certificate of Industrial/Professional Experience

#### 6.4. Stage 4 / Level 6

<b>Semester 1</b>	<b>\$GEOL3002: Earth Science Independent Research Project and Professional Skills 40 credits</b>		<b>Ocean Science module OS303: Ocean Dynamics 20 credits</b>
<b>Semester 2</b>	<b>Geology Option 1 20 credits</b>	<b>Geology Option 2 20 credits</b>	<b>Ocean Science module OS306: Coastal Geomorphology and Estuaries 20 credits</b>

**\$Summer Fieldwork:** Students will normally be expected to undertake some (up to 28 days) fieldwork between Stage 2 and Stage 4 to collect primary data as part of their Stage 4 project module (GEOL3002). If a student undertakes a placement year (Stage 3) then they can undertake this fieldwork in the summer before they start their placement or in the summer after they have finished.

**Tutorials.** For all Stage 4 Earth Science degree programmes the project advisor acts as a student's academic tutor throughout the year. There are no formal timetabled sessions.

#### **Stage 4 / Level 6 Geology Option 1 and 2: 40 credits from**

GEOL3006: Geological Information Systems (GIS) and Remote Sensing (20 credits)

GEOL3011: Petroleum Geoscience (20 credits)

GEOL3008: Advanced Geological Fieldwork (20 credits)

## **7. Programme Aims**

1. To provide a contemporary and intellectually stimulating programme of study incorporating theoretical, quantitative and practical aspects of specialist fields from the collective disciplines of Geology, and offering the opportunity for effective integration of those aspects of Geology with physical oceanography including ocean circulation, shelf sea oceanography, tides, waves and coastal processes.
2. To enable students to acquire transferable, technical, enterprise and professional skills appropriate to personal and career development, life-long learning and citizenship, including problem-solving, critical thinking, the abilities to apply and develop their own knowledge.
3. To enable students to develop and apply safe and ethical working practices, and develop and understanding of the concepts and practice of environmental responsibility and sustainability in the context of Geology and Ocean Science.
4. To develop, in students, an attitude of professional competence, and to provide the foundation for a career as a professional Geologist and / or an Ocean Scientist.

## **8. Programme Intended Learning Outcomes**

These are based around, though not exactly the same as, the subject knowledge and graduate key skills outlined in the 2007 Earth Sciences, Environmental Sciences and Environmental Studies QAA subject benchmark statements referred to in section 5. They also include a range of ILO's which are directly related to the Ocean Science modules the students will be doing with the School of Marine Science and Engineering.

### **8.1. Knowledge and understanding (KU)**

On successful completion a graduate should have developed:

- A coherent, detailed and multi-disciplinary knowledge of geology and ocean science, at least some of which is at, or informed by, the forefront of knowledge in the discipline.
- An understanding of the geological and ocean science processes which shape the natural world at different temporal and spatial scales.
- A detailed knowledge of the terminology, nomenclature and classification systems used in a range of geological and ocean science disciplines.
- An appreciation of uncertainty, ambiguity and the limits of knowledge.

### **8.2. Cognitive and intellectual skills (CIS)**

On successful completion a graduate should have developed:

- The ability to make judgments or find one or more solutions to a range of geological and ocean science problems, drawing on a critical evaluation of the

published literature, known assumptions, methods and data, some of which may be incomplete.

### **8.3. Practical skills (PS)**

On successful completion a graduate should have developed:

- The ability to be able to evaluate, select and apply appropriate geological and ocean science techniques, to collect, analyse, and present geological and ocean science information.
- The ability to 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.

### **8.4. Key Transferable skills (KTS)**

#### **8.4.1. Communication skills**

On successful completion a graduate should have developed:

- The ability to receive and respond to a variety of information sources (e.g. textual, numerical, verbal, graphical).
- The ability to communicate in a professional manner to a variety of audiences in written, verbal and graphical forms.

#### **8.4.2. Numeracy & communications & information technology (C & IT) skills**

On successful completion a graduate should have developed:

- The ability to appreciate issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory.
- The ability to prepare, process, interpret and present data, using appropriate qualitative and quantitative techniques and packages.

#### **8.4.3. Interpersonal/teamwork skills**

On successful completion a graduate should have developed:

- The ability to identify individual and collective goals and responsibilities and perform in a manner appropriate to these roles.
- The ability to evaluate their own performance as an individual and a team member.

### **8.5 Employment related skills (ERS)**

On successful completion a graduate should have developed:

- The ability to manage their own learning and to make use of scholarly reviews and primary sources (e.g., refereed research articles and/or original materials appropriate to the field of Geology and Ocean Science).

- The ability to communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

## **9. Admissions Criteria, including APCL, APEL and DAS arrangements**

### **9.1. BROAD SCOPE**

We welcome applications from people who, in addition to any formal qualifications:

- can demonstrate the ability to succeed on the chosen programme;
- will derive the greatest benefit from studying at the University;
- have a commitment and enthusiasm to learn.

All applications are considered on individual merit in relation to the aims and outcomes of the programme.

### **9.2. EQUALITY OF OPPORTUNITY**

The University aims to ensure that all applicants receive fair treatment. In line with its Strategic Plan, the University has strategies to promote equality of opportunity, widen participation and encourage access. In particular we welcome applications from:

- younger students from disadvantaged backgrounds;
- mature students;
- people with disability

Further information on equality for students can be found at:

<https://www.plymouth.ac.uk/your-university/about-us/university-structure/service-areas/equality-diversity-and-inclusion>

#### **9.2.1. Disability**

We welcome and support students with disabilities, and we endeavour to meet specific needs. The Disability Service supports disabled students across the University. Further information about the advice and support before, during and after application can be found at:

<https://www.plymouth.ac.uk/student-life/services/learning-gateway/disability-and-dyslexia>

### **9.3. QUALIFICATIONS FOR ENTRY (UNDERGRADUATE)**

#### **9.3.1. AS/A-Level and Vocational A-Level**

We welcome a mix of AS/A-Level and Vocational A-Level qualifications as well as specialisation in either. The table below sets out normal minimum qualifications required for entry to First Degree/Diploma in Higher Education programmes.

The standard entry requirements will be:

- For BSc (Hons) Geology with Ocean Science - a minimum of two A-Level subjects to include at least one science subject (Physics, Chemistry, Biology, Environmental Science, Geography, Geology or Maths). Excluding General Studies, Key Skills and any other tariff point qualifications;
- the equivalent in the Vocational A-Level;
- the equivalent as a mix of both qualifications.

We encourage applicants to study more subjects at AS Level or the equivalent. Offers will be based on results at the end of year 13, although AS grades gained at the end of year 12 may be used in conjunction with the predicted A-Level or Vocational A-Level grades as an important indicator of ability.

Not all 'Curriculum 2000' qualifications are acceptable for certain programmes. The acceptability of qualifications by programme is stated in the current University Prospectus, and on the University's website, [www.plymouth.ac.uk](http://www.plymouth.ac.uk). Some programmes may have specific entry requirements, e.g., portfolio. Offers made to mature applicants (over 21) may take account of work and life experience.

#### **Entry requirements (2015/16) summary for BSc (Hons) Geology with Ocean Science:**

<b>Qualifications accepted</b>	<b>Level required</b>
A-Level / AS Level / Vocational A-Level	<b>300-320</b> points, minimum of 2 A Levels, including grade C from either: Biology, Maths, Physics, Chemistry, Environmental Science/Studies, Applied Science, Geography, Geology or Technology. Excluding general studies, critical thinking, citizenship, Key Skills and any other tariff point qualifications. Other combinations and non-A level qualifications considered.
GCSE or equivalent	GCSE in English and Mathematics (at grade C or above) or equivalent are required.
General Studies A-Level	Is not accepted as part of a points offer.
AVCE Double Award: 12 unit	<b>300-320</b> points for all programmes. Subject requirement varies please see prospectus or refer to admissions team for further details. Additional units/A-Level subject will normally be required.
BTEC National Certificate/Diploma	BTEC Diploma – <b>300-320</b> points: DDM – science related subject. Subject requirement varies please see

	<p>prospectus or refer to admissions team for further details.</p> <p>BTEC Certificate – <b>300-320</b> points (DD =240 + other) Additional Units/A-Level subject will normally be required if only studying BTEC certificate.</p>
Access to Higher Education	<p>Pass a named Access to HE Diploma (Science), (including GCSE English and Maths grade C or above or equivalent) with at least 45 credits at Level 3, of which 30 credits must be at Distinction and 15 credits at Merit or higher in relevant science units.</p> <p>This offer would be made to ensure level of performance and has the flexibility to incorporate specific course modules an applicant is taking and specifying the level required.</p>
National Vocational Qualification (including Advanced Modern Apprenticeships)	<p>An appropriate NVQ at Level 3/AMA will be considered with other information that demonstrates your ability to successfully complete the programme you have selected.</p>
Scottish Qualifications Authority	<p><b>300-320</b> points for all programmes. Science Subject requirement varies please see prospectus or refer to admissions team for further details.</p>
Irish Leaving Certificate	<p>Within the range 300-320 points AABBB-ABBBB must include a Science Subject in Advanced Higher, requirement varies please see prospectus or refer to admissions team for further details.</p>
International Baccalaureate	<p>Offers will be made based on total points of 30 overall to include a 4 at a higher level. Subject requirement varies please see or prospectus refer to admissions team for further details.</p>
European Baccalaureate	<p>75% overall with 6 in science and maths (English of 7.5 will be asked if not taken GCSE level) Subject requirement varies please see prospectus or refer to admissions team for further details.</p>
Greek National Apolytirion	<p><b>18/20 with at least 18/20 in either</b> Biology, Maths, Physics, Chemistry, Environmental Science/Studies, Applied Science, Geography, Geology or Technology subject.</p>
Level 0 qualifications	<p>Students who pass the Extended Science year at Plymouth University with an overall aggregate mark of 50% or greater are guaranteed progression to any of the Earth Sciences degree programmes.</p>

### **9.3.2. Key Skills**

We encourage the attainment of Key Skills at a high level to enhance performance on a higher education programme. Although key skills tariff points do not count towards the admissions tariff score, they will enhance your performance on an Earth Sciences degree programme.

### **9.3.3. Accreditation of Prior Certificated Learning (APCL) and Assessment of Prior Experiential Learning (APEL)**

The University's regulations for Accreditation of Prior Certificated Learning (APCL) and Assessment of Prior Experiential Learning (APEL) are set out in the 'University Academic Regulations', a copy of which can be found at <https://www.plymouth.ac.uk/student-life/your-studies/essential-information/regulations>

We welcome evidence of prior learning and experience from applicants. Due to the range and mixture of prior qualification and experience applications presenting such evidence will be considered on an individual basis by the Admissions Tutor in consultation with the programmes team.

### **9.3.4. English Language Requirements**

Students are required to produce evidence of English language ability. This will normally be the equivalent of:

- GCSE Grade C or above in English language;
- IELTS average score of 6.0 or above with a score of at least 6.0 in the written component and 5.5 in each of the other three components (listening, reading and speaking);
- Equivalencies are detailed in 'Admissions Information and Procedures' issued by the University Secretariat.

### **9.3.5. Overseas Qualifications**

The University Secretariat provides advice on, and maintains oversight of, the acceptability of any qualification from overseas offered for entry.

## **9.4. CONTRACT OF ADMISSION**

The University's rules and regulations are incorporated into the contract made with the student. All students are required as a condition of enrolment to accept those rules and regulations that is set out:

- in the Student Handbook;
- on the University's website and available on request from the University Secretariat.

Any offer of a place made by the University is made on the basis of the applicant's:

- acceptance of the University’s rules and regulations as published and amended from time to time.
- acceptance of the following statement:
 

“The University Prospectus describes the undergraduate programmes offered by the University. Further documents will be issued to students to describe the educational services offered by the University, in particular the Code of Conduct and details of enrolment and assessment. These are contained in the Student Handbook and the Programme Handbook. The University undertakes all reasonable steps to provide the educational services described in the Prospectus and in the documents described but it does not guarantee the provision of such services. Should industrial action or circumstances beyond the control of the University interfere with its ability to provide educational services, the University undertakes to use all reasonable steps to minimise any resultant disruption.”
- undertaking to pay the fees required for the programme and any other fees for services offered by the University and accepted, such as accommodation.
- statements made on the application form, where the discovery of false statements or omissions may lead to the offer being withdrawn (or in the case of students enrolled, to their being required to withdraw).

#### **10. Progression criteria for Final and Intermediate Awards**

The University’s standard regulations for progression apply. A copy of the regulations can be found at:

<https://www.plymouth.ac.uk/student-life/your-studies/essential-information/regulations>

#### **11. Exceptions to Regulations**

None.

#### **12. Transitional Arrangements**

2018/19	2019/20
GEOL2003	GEOL2009
GEOL2006	GEOL2010
GEES1001PP	GEOL1006

## **Mapping and Appendices:**

### **13.1 ILO's against Modules Mapping**

See Appendix 1

### **13.2 Assessment against Modules Mapping**

See Appendix 2

### **13.3 Skills against Modules Mapping**

See Appendix 3

## APPENDIX 1: ILO's against Modules Mapping

<b>Knowledge and understanding (KU)</b>	<b>Stage 1</b>	<b>Stage 2</b>	<b>Stage 4</b>
<ul style="list-style-type: none"> <li>A coherent, detailed and multi-disciplinary knowledge of geology and ocean science, at least some of which is at, or informed by, the forefront of knowledge in the discipline.</li> </ul>	All modules	All modules	All modules
<ul style="list-style-type: none"> <li>An understanding of the geological and ocean science processes which shape the natural world at different temporal and spatial scales.</li> </ul>	All modules	All modules	All modules
<ul style="list-style-type: none"> <li>A detailed knowledge of the terminology, nomenclature and classification systems used in a range of geological and ocean science disciplines.</li> </ul>	All modules	All modules	All modules
<ul style="list-style-type: none"> <li>An appreciation of uncertainty, ambiguity and the limits of knowledge.</li> </ul>	GEOL1001	GEOL2006, 2006	GEOL3002, 3008, 3009
<b>Cognitive and intellectual skills (CIS)</b>			
<ul style="list-style-type: none"> <li>The ability to make judgments or find one or more solutions to a range of geological and ocean science problems, drawing on a critical evaluation of the published literature, known assumptions, methods and data, some of which may be incomplete.</li> </ul>	All modules	All modules	All modules
<b>Practical skills (PS)</b>			
<ul style="list-style-type: none"> <li>The ability to be able to evaluate, select and apply appropriate geological and ocean science techniques, to collect, analyse, and present geological and ocean science information.</li> </ul>	GEOL1002, 1006, OS102, 1003	GEOL2001, 2004, 2006, 2006, OS201	All modules
<ul style="list-style-type: none"> <li>The ability to 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,</li> </ul>	GEOL1006	GEOL2003, 2006, OS204	GEOL3002, 3008

and sensitivity to the impact of investigations on the environment and stakeholders.			
<b>Key Transferable skills (KTS)</b>			
<b>1. Communication skills</b>			
<ul style="list-style-type: none"> <li>The ability to receive and respond to a variety of information sources (e.g. textual, numerical, verbal, graphical).</li> </ul>	OS102, GEOL1003	GEOL2004, 2009, 2006	GEOL3002, 3006, 3008, 3011 OS303, 306
<ul style="list-style-type: none"> <li>The ability to communicate in a professional manner to a variety of audiences in written, verbal and graphical forms.</li> </ul>	GEOL1004	All modules	GEOL3002, 3006, 3008, 3011 OS3003, 3006
<b>2. Numeracy &amp; communications &amp; information technology (C &amp; IT) skills</b>			
<ul style="list-style-type: none"> <li>The ability to appreciate issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory.</li> </ul>	OS102	GEOL2003	
<ul style="list-style-type: none"> <li>The ability to prepare, process, interpret and present data, using appropriate qualitative and quantitative techniques and packages.</li> </ul>	OS102	GEOL2003	
<b>3. Interpersonal/teamwork skills</b>			
<ul style="list-style-type: none"> <li>The ability to identify individual and collective goals and responsibilities and perform in a manner appropriate to these roles.</li> </ul>	Not assessed	GEOL2004, 2006	GEOL3002
<ul style="list-style-type: none"> <li>The ability to evaluate their own performance as an individual and a team member.</li> </ul>	Not assessed	GEOL2004, 2006	GEOL3002
<b>Employment related skills (ERS)</b>			

<ul style="list-style-type: none"> <li>The ability to manage their own learning and to make use of scholarly reviews and primary sources (e.g., refereed research articles and/or original materials appropriate to the field of Geology and Ocean Science).</li> </ul>	GEOL1006	GEOL2006	GEOL3002
<ul style="list-style-type: none"> <li>The ability to communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.</li> </ul>	Not assessed	GEOL2006	GEOL3002

**Appendix 2: Assessment against Modules Mapping**

	P1		C1				E1
Module code	Assessed Practical	Presentation	Dissertation	Portfolio	Report(s)	Online Test	Exam
GEOL1001						X	NO
GEOL1002					X		YES
GEOL1004					X		YES
GEOL1006					X		NO
OS102					X		YES
OS109					X		YES
GEOL2001					X		YES
GEOL2004	X						YES
GEOL2003					X		YES
GEOL2006					X		NO
OS201					X		YES
OS204	X				X		NO
GEOL3002			X	X			NO
GEOL3005					X		YES
GEOL3006					X		YES
GEOL3007					X		YES
GEOL3008		X					NO
GEOL3010					X		YES
GEOL3011					X		YES
GEOL3012					X		YES

OS303					X		NO
OS306					X		YES

### **Appendix 3: Skills against Modules Mapping**

Key skills are covered in the Inteded Learning Outcomes and have been mapped against modules in Appendix 1

