University of Plymouth

Faculty of Science and Engineering

School of Geography, Earth and Environmental Sciences

Programme Specification

BSc (Hons) Geology with Ocean Science (5367)

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September 2022

1. BSc (Hons) Geology with Ocean Science

Final award title: BSc (Hons) 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

HECOS code: 101086

2. Awarding Institution: University of Plymouth

Teaching institution(s): University of Plymouth

3. Accrediting body(ies)

Geological Society of London

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 until April 2024.

4. Distinctive Features of the Programme and the Student Experience

The Geology with Ocean Science BSc Programme provides an innovative, practical-based education in Earth and Ocean Sciences, focussed around the knowledge and skills that will be required by graduates to help address global environmental and developmental challenges. Students benefit from Plymouth's worldwide reputation in teaching and research in marine, Earth and environmental sciences.

- A core of wide ranging, relevant and practical skills to investigate the Earth's Surface and it's interior, focussing on the Critical Zone in the shallow sub-surface;
- An innovative, integrated case-study approach, built around experiential learning;
- Utilisation of the South West's world-class local field and marine resources and ongoing resource exploration and extraction, and selected overseas fieldwork in areas of contrasting geology, oceanography and geography to the UK;
- A distinct and in-depth oceanographic perspective of marine and Earth surface processes and environments, and the interactions between the lithosphere, hydrosphere, biosphere and atmosphere;

BSc Geology with Ocean Science students have a distinct suite of skills and knowledge which differentiates them, and Plymouth graduates have a long-established track record of employment in a wide range of geological, marine science, environmental and educational careers. Employers include offshore survey and data acquisition, engineering and geotechnical companies, environmental agencies and consultancies, geospatial organisations, resource exploration and production, conservation and natural heritage, teaching and education, research and data analysis companies, as well as a wide range of non-oceanographic and geological careers, where employers value the practical and problem-solving skills which these students possess.

Cohort identity will be provided and maintained by students being placed in programme specific tutor groups and teams, by having dedicated student representation on programme committees and through choice of programme specific research projects.

5. Relevant QAA Subject Benchmark Group(s)

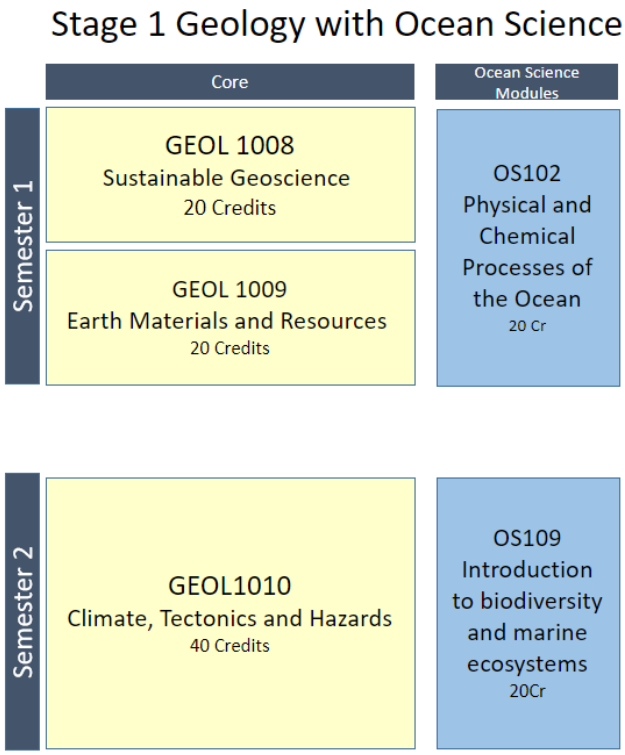
All the Earth Sciences programmes, including Geology with Ocean Science and its

content, have been developed with reference to the 2019 Earth Sciences, Environmental Sciences and Environmental Studies QAA subject benchmark statements. This is currently under review. A copy of which can be found at: https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-earth-sciences-environmental-sciences-and-environmental-studies.pdf?sfvrsn=ff2c881_6

These benchmark statements are referred to throughout the intended learning outcomes for this programme.

6. Programme Structure

In **Stages 1** (Level 4) Geology with Ocean Science students complete 80 credits of core modules in Earth Sciences, and 40 credits of core Ocean Science modules. Students complete GEOL1008, GEOL 1009 and GEOL1010 with students on the other Earth Science Programme pathways.



The focus of **Stage 1** is introducing the key themes of the Earth and Ocean Science programmes, defining sustainable geoscience and the role of geoscientist in global sustainable development, what it means to be a scientists and geoscience professional as well as key unifying concepts of Earth Science. Geology with Ocean Science students also take two marine science modules. In Semester 1, OSC102 provides an understanding of physical and chemical processes of the Oceans. In Semester 2, the focus shifts to understating of marine life and biodiversity in OS109.

These modules complement the geological perspective of the Earth and Oceans provided in the Earth Science core modules.

The culmination of Stage 1 is a residential fieldtrip to a geologically active setting (GEOL1010) to experience the role of geoscience in understanding tectonically active processes, and their impact on hazards, resources and the environment.

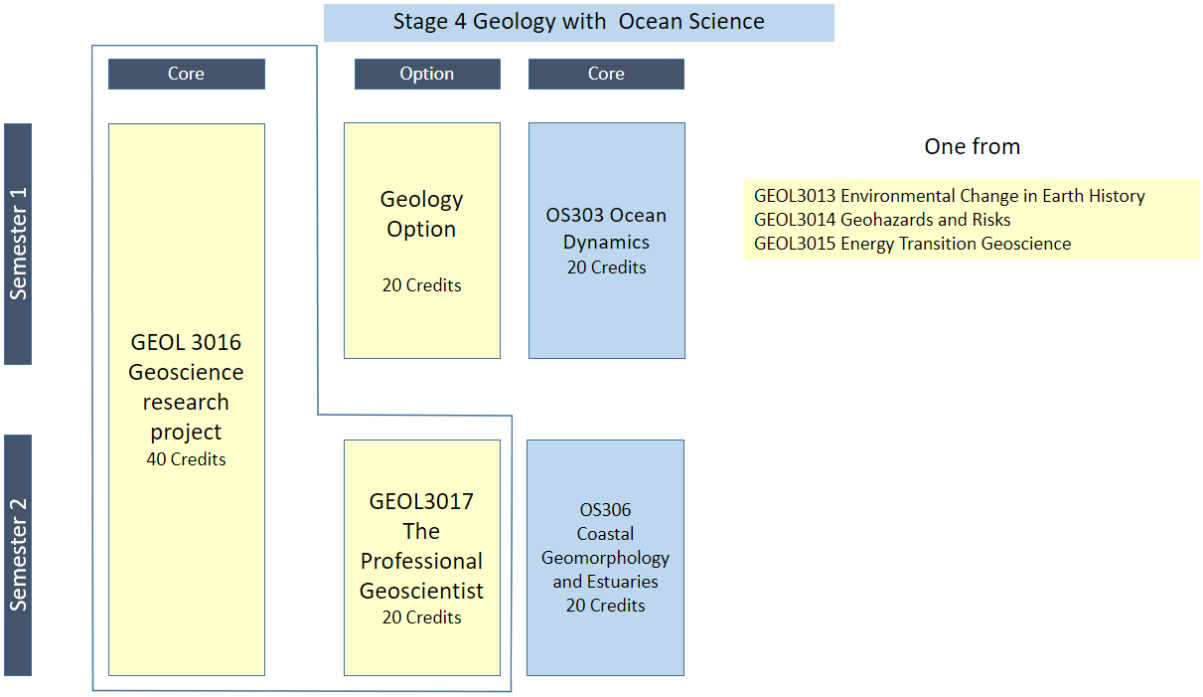
At **Stage 2**, BSc Geology with Ocean Science students study core Earth Science modules GEOL2014, GEOL2015. The core 40 credits modules GEOL2014 and GEOL2015 are studies by all Earth Science students and use a series of sequential case studies to develop an understanding of the Earth Surface to interior in space and time, focussing on the practical experience of the skills and techniques scientists use to analyse these environments.

Students also complete two 20 credit Ocean science modules at Stage 2. OS201 builds on concepts and skills in Stage 1 and provides an in-depth understanding global ocean processes, while OS204 focusses more on coastal systems and their dynamics.

Students are also able to take Stage 2 abroad as part of an international exchange programme, and would then return to complete Stage 4 of their degree programme.

Students have the option to take **Stage 3** as a year-long placement (API317, and prepare for this optionality during Stage 2 in the module APIE217. This module also provides guidance in professional development and employability skills.

At **Stage 4**, BSc Geology with Ocean Science students undertake a Geoscience Research project based around independent data collection analysis (in laboratory and/or field). They also practice and develop individual and team professional skills in the module GEOL3017 “The Professional Geoscientist”, which acts as a springboard to their post-graduation careers.



In Semester 1, students take the core ocean Science module OS303 Ocean Dynamics. They are also able to choose one module from three Earth Science options, focused on energy resources, hazards or past and present environmental change (via palaeontology, geochemistry and sedimentology). In Semester 2, Geology with Ocean Science students take the core 20 credit module OS306, Coastal Geomorphology and Estuaries.

7. Programme Aims

- To provide a rigorous, contemporary and stimulating programme of study in Geology and Ocean Science, that is practical, with an emphasis on the role of marine and geoscientists in addressing global sustainable development challenges.

- Students will develop knowledge and understanding of the Earth's materials and resources, the processes acting on these materials, and how understanding the past informs our future understanding of the Earth system as it responds to unprecedented environmental change, whilst integrating these geological aspects with understanding in physical oceanography and marine science.

- 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.

- To enable students to develop and apply safe and ethical working practices, with an ability to work inclusively and appreciate the value of diverse perspectives, and develop understanding of the concepts and practice of environmental responsibility in the context of Ocean Science and Geology.

- To enable students to develop an attitude of professional competence, and to provide the foundation for a career as a professional Geologist or Marine 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 2019 Earth Sciences, Environmental Sciences and Environmental Studies QAA subject benchmark statements referred to in section 5.

8.1 Knowledge and Understanding (KU)

On successful completion graduates should have developed knowledge and understanding of key Earth-science theories, paradigms, concepts and principles:

KU1) A sound theoretical understanding of the science behind, and the role of geoscience and ocean science, in addressing global sustainable development challenges, as well as demonstrating practical skills which can be applied in meeting these objectives.

KU2) A holistic understanding of the Earth system with an emphasis on geological (Earth structure and interactions between the spheres) and ocean science (ocean circulation, shelf sea oceanography, tides, waves and coastal processes) processes

KU3) A coherent understanding of unique geological concepts (stratigraphic principles, geochronology, rates of Earth processes, major events in Earth history, the fossil record of the evolution of life) and how this understanding enables Earth Scientists, to develop predictions for future events and their impacts

KU4) Comprehensive understanding of Earth and Marine Science terminology, nomenclature and classifications systems underpinned by the ability to correctly identify geological materials and structures

KU5) An understanding of the collection and analysis of Earth and Ocean Science data in the laboratory, field and subsurface and the appropriate presentation manipulation, and extrapolation of these sometimes incomplete data on two and three dimensions.

8.2. Cognitive and Intellectual skills (CI)

On successful completion graduates should have developed:

CI1) An ability to critically integrate information and evidence from a range of sources, to test findings and hypotheses.

CI2) An ability to consider Earth and Environmental issues from a range of interdisciplinary and multidisciplinary perspectives.

CI3) An ability to analyse, synthesise, summarise and critically evaluate Earth and ocean science information and to express uncertainty in analyses.

CI4) An ability to define complex problems in Earth and Ocean Sciences, and to develop and evaluate possible solutions to these problems.

8.3. Key and Transferable skills (KT)

On successful completion graduates should have developed:

KT1) An ability to communicate and argue a case effectively to a variety of audiences and using a variety of formats/media.

KT2) Good interpersonal communication skills to enable effective group and team working.

KT3) Skills for autonomous learning.

8.4. Employment Related skills (ER)

On successful completion graduates should be able to:

ER1) Work effectively as a team member and recognise, respect and value the views of others.

ER2) Demonstrate an awareness of the importance of risk assessment, safety management and relevant legislation.

ER3) Identify and work towards targets for personal, career and academic development, reflect on the process of learning and to evaluate personal strengths and weaknesses.

ER4) Display an appreciation of developing their graduate skills and social and environmental awareness relevant to career pathways.

8.5. Practical skills (P)

On successful completion graduates should have developed the ability to:

P1) Plan and conduct Earth and Ocean Science fieldwork and laboratory investigations independently, safely, ethically and competently.

P2) Describe and record observations in the field and laboratory and interpret and evaluate results of practical analyses in a logical manner.

P3) Prepare, manipulate and interpret data using appropriate technologies, applications, numerical and statistical techniques, and apply these correctly.

P4) Plan, conduct and present an independent Earth Science project with appropriate guidance.

9. Admissions Criteria, including APCL, APEL and Disability Service arrangements

9.1 Overview

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;
- BAME students.

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/student-services/disability-and-dyslexia

9.3 Qualifications for Entry

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) Environmental Geoscience - a minimum of two A-Level subjects (see below for tariff points and further details). 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.

Students who have successfully passed all modules of the BSc (Hons) Geology with Foundation year with an overall aggregate of at least 50% are guaranteed a place on the BSc (Hons) Geology with Ocean Sciences programme.

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. 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 (2022/23) summary for BSc (Hons) Geology with Ocean Science:

Qualifications Accepted	Level Required
A-level/AS-level	112-120 points from a minimum of two A levels, normally to include a relevant science subject at grade C. AS Levels may contribute to a points offer. **112pts**: If studying 2 Science subjects at A Levels from: Maths/Further Maths, Physics, Chemistry, Biology, Geology, Geography, and Environmental Sciences. **Offer**: 112 Pts, min 2 A levels to include grade C from one science subject, **Excluding** General Studies **120 pts:** If studying 2 Science subjects at A Levels, from: Biology, Maths/Further Maths/Statistics, Physics, Chemistry, Environmental Science/Studies, Applied Science, Geography, Geology, Psychology, electronics, Computer Science or Design and Technology, (EXAMPLE COMBI x2 BTEC Subsidiary Diploma (App Sci and IT) and one A Level in Geog OK) **Offer**: 120 pts, min 2 A Levels to include Grade C from one science subject **Excluding** General Studies
GCSE or equivalent	GCSE in English and Mathematics (at grade C/4 or above) or equivalent are required.
BTEC National Diploma/QCF Extended Diploma	National Diploma: DDM from a science related course. BTEC Certificate – DD Additional Units/A-Level subject will normally be required if only studying BTEC certificate.
Access to Higher Education at level 3	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. 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.
Welsh Baccalaureate	OK to include with 2 A-levels to meet 112 points.
National Vocational Qualification (including	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.
Scottish Qualifications Authority	**300-320** points for all programmes. Science Subject requirement varies please see prospectus or refer to admissions team for further details.
Irish Leaving Certificate	H2 H2 H2 H3 H3 to include sciences subjects refer above for combinations but Agricultural Science and Biology are fine as a combination. Maths and English at O1-O4 or H1-H7 is GCSE equivalent
International Baccalaureate	28 - 30 points. 28 points overall to include 4 at Higher Level in two science subjects. 30 points overall to include 4 at Higher Level in one science subject. English and Mathematics must be included. Subject requirement varies please see or prospectus refer to admissions team for further details.
European Baccalaureate	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.
Greek National Apolytirion	18/20 with at least 18/20 in either Biology, Maths, Physics, Chemistry, Environmental Science/Studies, Applied Science, Geography, Geology or Technology subject.
UPIC Integrated Programme	Admission to the programme is subject to successful completion of the University of Plymouth International College (UPIC) Foundation Year.
Year 0	Students who have successfully passed all modules of the BSc (Hons) Geology with Foundation year with an overall aggregate of at least 50% are guaranteed a place on the BSc (Hons) Geology with Ocean Science programme.

English Language Requirements

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

- GCSE Grade C/4 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.

Overseas Qualifications

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

8. Progression routes/criteria for progression to Final and Intermediate Awards

The Geology with Ocean Science programme follows the University's Academic Regulations for undergraduate programmes.

9. Non Standard Regulations

None

10. Transitional Arrangements for existing students looking to progress onto the programme

Timetable for implementation

Each new stage will be introduced in the following years

- Stage 1 (Level 4) September 2022
- Stage 2 (Level 5) & Stage 4 (Level 6): September 2023

Students registered who commenced their Stage 1 studies in September 2022 will be the first cohort to undertake the re-approved Programmes as proposed in this re-approval.

Stage 5 (Level 7) is in the same form as the current MGeol Stage 5 and there are no transitional implications for that programme/Stage.

Alternative Modules for students interrupting and returning to study

Students who have completed a Stage but interrupted their studies, or taken a placement (APIE317) at Stage 3, will return to commence their studies year-long undertaking the new range of modules available at Stage 4 for that academic year.

Students returning part time to complete their studies for a Stage for which modules have been discontinued will take the following alternatives

GEOL1001 – alternative is GEOL1008
GEOL1002 – alternative is GEOL1009
GEOL1007 – alternative is GEOL1008

GEOL2011 – alternative is GEOL2016
GEOL2012 – alternative is GEOL2017

GEOL3001 and GEOL3002 – alternative is GEOL3016

Elective modules
GEOL3005 and GEOL3007 – alternative is GEOL3018
GEOL3006 and GEOL3008 – alternative is GEOL3019

For other modules, the alternative module which the students will be asked to complete will be determined by the Programme Lead to ensure that the programme learning outcomes are met, and that they are able to complete the required number of credits at that Stage. This will be done on a student-by-student basis because the content of pre-existing modules has been redistributed into more than one module, and the new programmes include some 40 credit modules at Stages 1 and 2 which do not exist in the current scheme. When a student interrupts their studies, the implications in terms of the changes to the programme will be discussed with that student.

Students wishing to change Programmes

A student on any Earth Science programme is able to change to BSc Geology at the Start of Stage 2 or Stage 4 should they wish, so long as they have achieved 120 credits at the level below (e.g. they must complete Stage 2 of any programme to be able to transfer to Stage 4 of BSc Geology), in accordance with University of Plymouth academic regulations. They also require approval from the Earth Science programme lead in writing.

For students washing to change to other programmes, this will follow University regulations and this will be at the discretion of the Programme Lead/Admissions tutor for the programme which the student wishes to join.

As is the case in existing programmes, students are able to transfer to the MGeol Stage 5 from any Earth Science programme at the end of Stage 4. To do this they must have achieved at least 55% aggregate mark at the end of Stage 2. Under these circumstances, students making this transfer would not be awarded with a BSc, but would need to complete the MGeol at Level 7 to gain that qualification.

Appendices

Programme Specification Mapping (UG) – core/elective modules

Appendix 1: Programme Specification Mapping (UG): module contribution to the meeting of Award Learning Outcomes

CORE MODULES: tick those Award Learning Outcomes the module contributes to through its assessed learning outcomes.
ELECTIVE MODULES: tick those Award Learning Outcomes the module contributes to through its assessed learning outcomes.

Core Modules				Award Learning Outcomes Contributed To																									
				Knowledge and Understanding KU					*Congitive and Intellectual CI*				*Key and Transferable KT*			*Employment related ER*				*Practical P*				Comp.	*Assessment Elements*				
Level	**Code**	**Cr/Sem**	**Name**	KU1	KU2	KU3	KU4	KU5	CI1	CI2	CI3	CI4	KT1	KT2	KT3	ER1	ER2	ER3	ER4	P1	P2	P3	P4	Y/N	O1/E1	T1	C1	P1	A1
Level 4	GEOL1008	20 AU	Sustainable Geoscience	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓		✓						Y			60%	40%	
	GEOL1009	20 AU	Earth Materials and Resources	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓		✓		✓	✓	✓			Y	30%		70%		
	GEOL1010	40 SP	Climate, Tectonics and Hazards	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓	✓		✓	✓	✓	✓		N		25%	50%	25%	
	OS102	20AU	Physical and Chemical Processes of the Ocean		✓			✓	✓		✓		✓		✓							✓		Y	50%		50%		
	OS109	20SP	Introduction to Biodiversity and Marine Ecosystems		✓		✓		✓		✓		✓		✓									Y	50%		50%		
			Level 4 LO's	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
Level 5	GEOL2014	40 AU	The Earth Surface and Critical Zone	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓		N	25%		50%	25%	
	GEOL2015	40 SP	The Earth's Interior and Resources	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓				✓	✓	✓	✓		N		25%	50%	25%	
	OS201	20AU	Global Ocean Processes		✓			✓	✓	✓	✓	✓	✓		✓			✓			✓	✓		Y	50%		50%		
	OS204	20SP	Waves, Tides and Coastal Dynamics		✓			✓	✓		✓		✓		✓							✓		Y			100%		
			Level 5 LO's	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
Level 6	GEOL3016	40 AY	Geoscience Research Project			✓	✓	✓	✓		✓	✓	✓		✓					✓	✓	✓	✓	N			85%	15%	
	GEOL3017	20 SP	The Professional Geoscientist	✓				✓		✓		✓	✓	✓		✓	✓	✓	✓	✓				Y			70%	30%	
	OS303	20AU	Ocean Dynamics		✓		✓	✓	✓	✓	✓		✓		✓							✓		Y			100%		
	OS306	20SP	Coastal Geomorphology and Estuaries	✓	✓			✓	✓	✓		✓	✓		✓							✓		Y	40%		60%		
			Level 6 LO's	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
			Confirmed Award LO's	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						

Elective Modules				Award Learning Outcomes Contributed To																									
				Knowledge and Understanding KU					*Congitive and Intellectual CI*				*Key and Transferable KT*			*Employment related ER*				*Practical P*				Comp.	*Assessment Elements*				
Level	**Code**	**Cr/Sem**	**Name**	KU1	KU2	KU3	KU4	KU5	CI1	CI2	CI3	CI4	KT1	KT2	KT3	ER1	ER2	ER3	ER4	P1	P2	P3	P4	Y/N	O1	T1	C1	P1	A1
Level 6	GEOL3013	20 AU	Environmental Change in Earth History		✓	✓		✓	✓		✓	✓	✓		✓			✓				✓		Y			100%		
	GEOL3014	20AU	Geohazards and Risks	✓	✓			✓	✓	✓	✓	✓	✓		✓		✓							Y			60%	40%	
	GEOL3015	20AU	Energy Transition Geoscience	✓	✓			✓	✓	✓	✓	✓	✓		✓				✓			✓		Y			70%	30%	